



CAS MAG

The official magazine of the Canterbury Astronomical Society

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

Monthly Meeting: Tuesday 19th JUNE 2018

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

Refreshments start at 7.30. Meeting starts at 8pm

JUNE MEETING:

Members only—Topic to be Announced



The Helix Nebula. Image by Euan Mason & Larry Field
Imaged with the Meade 16" RCX at R.F. Joyce Observatory

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CAS Calendar, June 2018—July 2018

June 2018

Friday 1st	Public Open Night
Tuesday 12th	Committee Meeting
Thursday 7th	Last Quarter
Thursday 14th	New Moon
Friday 15th	Public Open Night
Tuesday 19th	CAS Members Meeting 7.30pm
Wednesday 20th	First Quarter
Thursday 21st	June solstice
Friday 22nd	Public Open Night
Saturday 23rd	Mid-Winter Bonfire/BBQ from 6pm (Members Night)
Thursday 28th	Full Moon
Thursday 28th	Saturn at Opposition
Friday 29th	Public Open Night

July 2018

Sat 7th–21st	KidsFest open nights
Tuesday 10th	Committee Meeting
Friday 13th	New Moon
Tuesday 17th	CAS Members Meeting 7.30pm
Saturday 21st	Members' night at R.F. Joyce Observatory
Friday 27th	Public Open Night
Friday 27th	Mars at opposition
Saturday 28th	Full Moon
Saturday 28th	Lunar eclipse (before moonset)
Sunday 29th	Delta Aquirids peak

UPCOMING EVENTS:

PUBLIC OPEN NIGHTS

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

May: 11th, 18th

June: 1st, 15th, 29th

July: 6th to 21st KIDSFEST

August: 3rd, 17th, 31st

September: 14th, 28th



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

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

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

KIDSFEST 2018

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

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



CAS Membership Subscriptions 2018-2019

The Current years subscriptions are due from 1st April 2018,

Please use your name and member number as a reference when banking, then email membership@cas.org.nz to advise so payments can be matched to you correctly.

PLEASE also include any changes to your contact details (eg: phone, email, address) Full details are included on the last page of this newsletter.



MONTHLY MEETINGS:

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

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

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



Disabled
Engineering Rd

parking is in



Upcoming Guest Speakers:

19th JUNE 2018,TBA

17th JULY 2018,TBA

21st AUGUST 2018,
Dr Jen Blake (Nasa Ames),

18th SEPTEMBER 2018,
Members Soapbox

16th OCTOBER 2018,TBA

20th NOVEMBER 2018
Alan Gilmore, (Former Superintendent Mt John University Observatory)

(correct as at 1st June 2018, Subject to change as required)

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

WELCOME TO OUR NEW MEMBERS:

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

New Members last month were Bryn Johnstone, Vienna Bennett, Paul Mckee, Robert Banks (& Family)

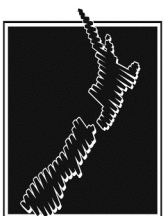


Table of Southern Meteor Showers

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

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

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



**MAINLAND
FOUNDATION**
Proud to Support Our Community

C E R T

*Your local Gaming Trust
committed to 100% local funding*

**Pub
Charity** 
Limited

OBSERVATORY NEWS

INTERNET AT THE OBSERVATORY

The installation of our internet at the observatory is almost complete.

Just a antenna to be installed after the roof is completed

CLEANING AT THE LODGE

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

COMMENTS FROM THE PRESIDENT

Almost three months have passed since the AGM, and plenty of great things and one sad thing have happened.

We've enjoyed some great talks, organised by Carol McAlavey, and quite a few club nights with great gatherings. This month she is arranging something special for members, but you'll just have to come along to find out what it is.

Terry Richardson, our new Observatory Director, has taken to his task with great industry and no small amount of talent. We are fortunate to have someone prepared to volunteer his time and talents to make our facilities first class. Please answer when he calls for help on working bees.

Speaking of time and commitment, have you seen our new website lately? There's a rumour that Simon Lewis is risking divorce with the time he's putting into creating a website that has not only forums, but all sorts of other services. Take a look at <http://www.cas.org.nz>. Every time I visit I find some new feature. Our Facebook presence is also making waves (no pun intended), thanks to him.

Christina Lewis has organised our membership records extremely well, and is working to make new members feel more welcome. Thanks to Dave Brian our accounts are up to date and increasingly well integrated with membership records.

As you're aware, Dale Kershaw produces CASMAG every month, keeping us informed and entertained. This is a major commitment.

Rob Glassey organises open nights, and they are so much better arranged than they were last time I was part of the committee. If you haven't tried it, you shouldn't miss the opportunity to see a child's brain spark with delight at Saturn's rings or the clouds and moons of Jupiter. Contact Rob at Vice.President@cas.org.nz to learn how you can help.

Thanks to Colin Fortune for maintaining our library, and also to Spencer Lintott for keeping our meeting records so well.

A special congratulations to all those involved with the RASNZ conference we hosted in the Great Hall at the Arts Centre. The Local Organising Committee was chaired by Carol, and included Spencer, Dale, Orlon Petterson, Graeme Kershaw, Huia Parker, David Downing, and me. What an absolutely fabulous event! Carol just about needed smelling salts when several delighted delegates suggested CAS should host it every year!

Sadly, we lost Graeme in May, and you can read my thoughts about this on page 7.

Finally, thanks to you, friends, and CAS members, who make CAS such a great society.

Euan Mason
Current CAS President

Obituary — Graeme Kershaw

In May this year, we lost a friend and long-standing member of CAS.

Graeme joined CAS during the 1960s, long before I joined the Christchurch community, but I have heard from other members of his early enthusiasm, and I well understand how he must have been drawn to astronomy as a youngster.

Two days ago Rob Evans sent me an image of a very young Graeme at the R.F. Joyce observatory, alongside an ancient car, some extremely long, yellow grass & the very first dome – a now leaky one that, despite the ravages of time still (only just) stands next to our lodge. Graeme was there at the beginning, and he was one of the people who helped build a marvellous facility that has introduced generations of eager young Cantabrians to the cosmos and to science.



Among other things he was instrumental, if you'll excuse just one tawdry pun, along with Clive Rowe & Bill Hamilton, in setting up the 14" telescope in our main dome.

Since retirement Graeme has been hugely helpful to many members, instructing them and assisting them as they set up their astronomical equipment. In addition, I very much appreciated his wise counsel.

When I think of Graeme I think of kindness, creativity, & quiet sanity. In Graeme we witnessed an intersection between art & science. Just look at what he recreated with his recovery of the Townsend Teece telescope, a beautiful machine that appeared beyond repair after our deadly earthquake, and which he has made even more beautiful. What a miracle. He brought it back to life, & this is just one of many marvellous creations he applied his talents to.

My father lived by just a few maxims, and the most important of those was always to strive to leave the world in a better condition than one found it. Perhaps in these troubling times, so as not to be too optimistic, we might alter it to say we should leave the world better than it should have been had we never lived. Graeme most certainly did that, and I felt as soon as I met him that he must harbour some similar ambition. With some people you can just tell. He practiced it with quiet dignity.

Graeme and Dale shared a loyal devotion that I am fortunate enough to also understand, and which was a delight to witness. Dale, and the rest of Graeme's family, our hearts go out to you at this time. It would be wrong to celebrate Graeme's life without also offering our support to those loved ones he has left behind. We share your sorrow, and we are here for you.

To Graeme, I would say, thank you, my friend, for all you were and all you have done. You more than earned our respect, helped us live better lives, and we'll not forget you.

From a eulogy by Euan Mason, CAS President

The Evening Sky in June 2018

Bright planets light up the evening sky along with the brightest stars. Brilliant silver **Venus** appears in the northwest and golden Jupiter in the east soon after sunset. In the later evening **Mars**, orange-coloured tending to apricot, is low in the southeast. Between Jupiter and Mars is cream-coloured **Saturn**, fainter than the other planets but the brightest 'star' in that area. Between Jupiter and Saturn is orange **Antares**, the brightest star in Scorpius. Mercury appears late in June.

Low in the west at dusk is **Sirius**, the brightest true star. It sets around 9 pm mid-month, twinkling like a diamond. Sirius appears bright both because it is 23 times brighter than the sun, and because it is relatively close at nine light years*. **Canopus**, the second brightest star, is higher in the southwest sky, circling to lower in the south later. Canopus is 310 light years away and 13,000 times brighter than the sun. **Arcturus** is a lone bright star in the northeast. Its orange light often twinkles red and green when it is low in the sky. It sets in the northwest in the morning hours.

Jupiter and Saturn are good targets for small telescopes. Jupiter's disk is obvious, even in binoculars. A telescope shows its four 'Galilean' moons lined up on either side. It is 690 million km away. A small telescope shows Saturn's rings and its biggest moon, Titan, about four ring-diameters from the planet. Saturn is 1360 million km away mid-month. Mars, though bright, is small in a telescope, about one-third Jupiter's apparent size. It will get bigger, to half Jupiter's size, when we pass it in late July. It is 80 million km away in mid-June.

Crux, the Southern Cross, is south of the zenith. Beside it and brighter are Beta and **Alpha Centauri**, often called 'The Pointers' because they point at Crux. Alpha Centauri is the closest naked-eye star, 4.3 light years away. Beta Centauri and many of the stars in Crux are hot, extremely bright blue-giant stars around 550 light years away. They are members of a group of stars that formed together then scattered. The group is called the Scorpius-Centaurus Association.

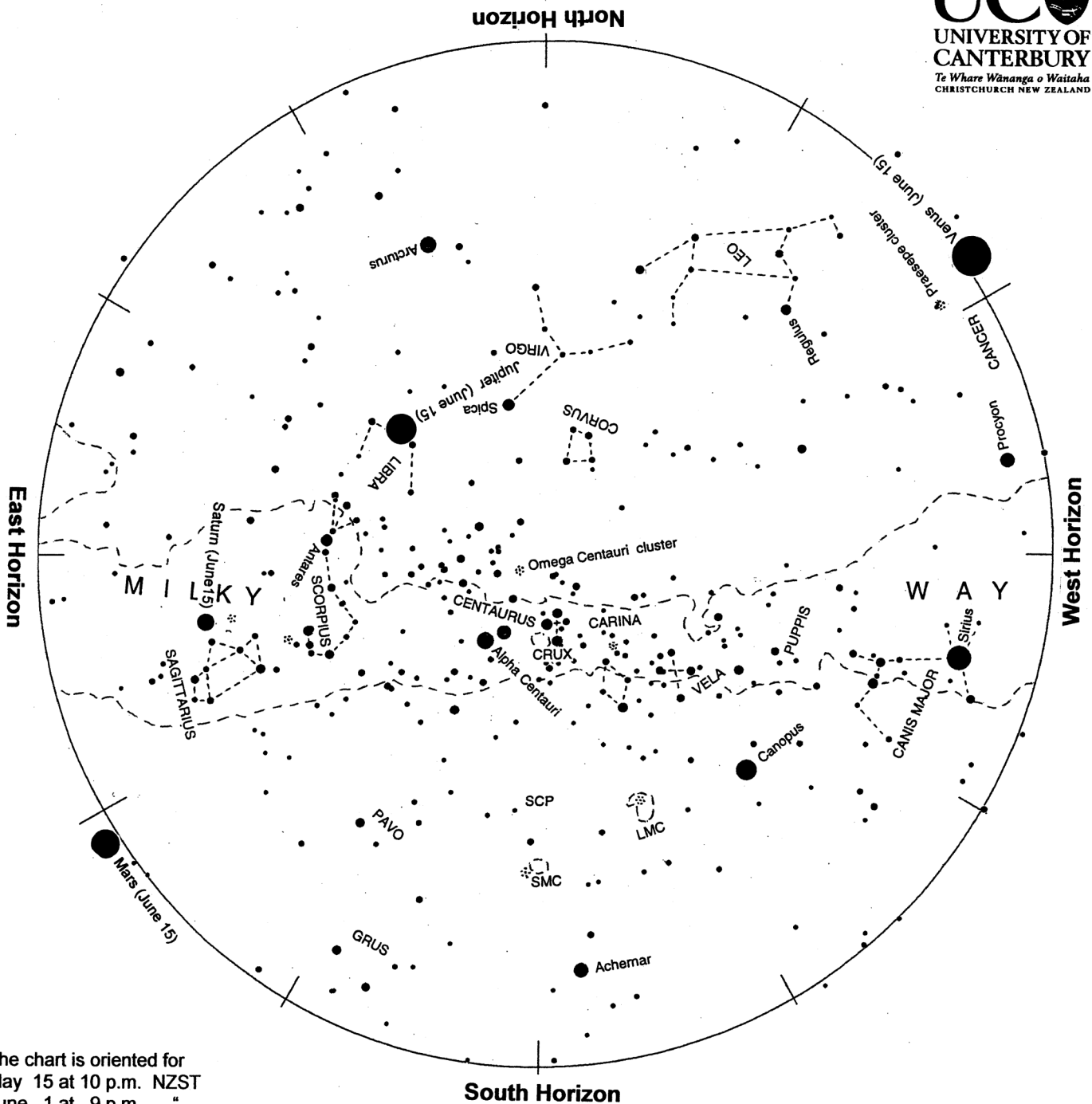
Antares, marking the scorpion's heart, is a red giant star: about 600 light years away and 19 000 times brighter than the sun. Red giants are much bigger than the sun but cooler, hence the orange- red colour. Though hundreds of times bigger than the Sun, Antares is only about 12 times the Sun's mass or weight. Most of the star's mass is in its hot dense core. The rest of the star is thin gas. Red giants are dying stars, wringing the last of the thermo-nuclear energy from their cores. Antares will end in a spectacular supernova explosion. Below Scorpius is **Sagittarius**, its brighter stars making 'the teapot'.

The **Milky Way** is brightest and broadest in the southeast toward Scorpius and Sagittarius. It remains bright but narrower through Crux and Carina then fades in the western sky. The Milky Way is our edgewise view of the galaxy, the pancake of billions of stars of which the sun is just one. The thick hub of the galaxy, 30 000 light years away, is in Sagittarius. A scan along the Milky Way with binoculars will find many clusters of stars and some glowing gas clouds. Relatively nearby dark clouds of dust and gas dim the light of distant stars in the Milky Way. They look like holes and slots in the Milky Way. There is a well-known dark cloud called The Coalsack by the Southern Cross. It is around 600 light years away. The dust, more like smoke particles in size, comes off old red stars. These clouds eventually coalesce into new stars.

The Clouds of Magellan, **LMC** and **SMC**, in the lower southern sky, are luminous patches easily seen by eye in a dark sky. They are two small galaxies about 160 000 and 200 000 light years away. The Large Cloud is about 5% the mass of the Milky Way; the Small Cloud is about 3%.

Late in June **Mercury** gradually moves up the evening sky below and left of Venus. On the 20th it will be setting an hour after the Sun; by the 30th it will set nearly two hours after the Sun.

*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.



The chart is oriented for
May 15 at 10 p.m. NZST
June 1 at 9 p.m. "
June 15 at 8 p.m. "
July 1 at 7 p.m. "

Evening sky in June 2018

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

All the naked-eye planets appear in the evening sky in June but not all at the same time. Brilliant Venus appears in the northwest and golden Jupiter in the east soon after sunset. In the later evening orange Mars rises in the southeast. Between Jupiter and Mars is cream-coloured Saturn, fainter than the other planets but the brightest 'star' in that area. Sirius, the brightest true star, twinkles colourfully in the west. Canopus is in the southwest. South of overhead are the Pointers, Alpha and Beta Centauri, with the Southern Cross (Crux) to their right. Orange Arcturus, low in the north, often twinkles red and green. Late in June Mercury appears below and left of Venus.

CAS Committee and Officers 2018/2019

Public Nights and Group Bookings

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

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

CAS Contact Information

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Victoria Street Post Office

Christchurch 8144

Web: www.cas.org.nz

CanterburyAstronomicalSocietyFacebook 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 meeting is currently held from 7:30pm onwards every third Tuesday of the month (except December and January), in room 701 on the 7th floor of the West building (Old Rutherford) (Physics and Astronomy) of the University of Canterbury

Any member of the public who is considering joining the Society is most welcome to attend the meeting.

CAS on Facebook

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

CAS on Twitter

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

CAS Membership

Subscriptions are due 1st April.

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

Contributions to CASMAG

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

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

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

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

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

The Constitution of The Canterbury Astronomical Society Inc

This can be found on our website via this link

<https://www.cas.org.nz/files/file/3-the-constitution-of-the-canterbury-astronomical-society-inc/>

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
 Victoria Street
 CHRISTCHURCH 8144



Applicant's name in full (Block letters): _____

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; subscription must accompany application)

Discounted if membership is renewed before 31 May

Online banking details (Please identify your payment): 03 0802 0098273 00

	Discounted	Full
<input type="checkbox"/> Adult (any person 18 years of age or over who is not eligible 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 1 April of 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 institution; must reapply annually)	\$35	\$40
<input type="checkbox"/> Corporate (members have voting rights of one member but cannot take office)	\$210	\$240

§ If family membership, please list the other persons involved.

Name	Date of birth (if under 18)	Signature

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

☐ by email as a .pdf attachment?

☐ 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. A copy of the Constitution may be downloaded from http://www.cas.org.nz/constitution/CAS_constitution.pdf.

Date Approved: _____