



CAS MAG

The official magazine of the Canterbury Astronomical Society

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

Monthly Meeting: Tuesday 17TH APRIL 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

APRIL MEETING: Dr John Campbell,
Physics Department (Rtd), University of Canterbury
Subject title: The Life of William Pickering

CANTERBURY ASTRONOMICAL SOCIETY AGM REPORT

This was held on 20th March. Several constitution changes were voted on and these will be updated online this month, Committee Office holders presented their reports and a summary of those are published in this issue.

Your new Committee was then elected (details are on page 8)

We then voted in 2 new Life Members.

Congratulations to Carol McAlavey and Malcolm Carr,
more about them on page 6.

Many thanks go to the outgoing committee members for their hard work and commitment to CAS during their time on the committee.



WORKING BEE at OBSERVATORY 21ST April from 2pm see page 6 for information

2018 RASNZ CONFERENCE 4th-6th MAY 2018

Canterbury Astronomical Society are the hosts for this event and it is to be held at "The Great Hall" @ the Arts Centre Christchurch.

We are urgently needing volunteers to help us with the organisation from now through till the event. We also require sponsors of items or cash.

Please contact Carol McAlavey Chairperson LOC via member1@cas.org.nz

Or Dale Kershaw Secretary LOC via editor@cas.org.nz

COUNTDOWN: 3 WEEKS UNTIL CONFERENCE

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CAS Calendar, April 2018—June 2018**April 2018**

Friday 6th	1st Public Open Night 7.30pm
Sunday 8th	Last Quarter
Tuesday 10th	Committee Meeting
Monday 16th	New Moon
Tuesday 17th	CAS Members Meeting 7.30pm
Friday 20th	Public Open Night 7.30pm
Saturday 21st	Working Bee at Observatory 2pm
Saturday 21st	Members Night at Observatory 7pm
April 25th	ANZAC Day
April 30th	Full Moon

May 2018**Friday 4th—Sunday 6th RASNZ Conference**

Tuesday 8th	Last Quarter / Committee Meeting
Tuesday 15th	New Moon/ CAS Members Meeting 7.30pm
Friday 18th	Public Open Night
Saturday 19th	Members Night at Observatory
Tuesday 22nd	First Quarter
Wednesday 30th	New Moon

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
Saturday 23rd	Mid-Winter Bonfire/BBQ from 6pm (Members Night)
Thursday 28th	Full Moon
Friday 29th	Public Open Night

UPCOMING EVENTS:

PUBLIC OPEN NIGHTS

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

April: 20th

May: 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.



RASNZ CONFERENCE 2018: 4th-6th May 2018;

Hosted by CAS at The Great Hall@ the Arts Centre Christchurch,

Conference brochure can be viewed at

<http://rasnz.org.nz/images/articleFiles/Conference/2018/ConferenceBrochure2018.pdf>

The Local organising committee are asking for confirmed helpers to be at the observatory on the Friday afternoon to assist with the delegates who will be travelling by bus out to view our site, Showing them around our equipment, serving a small afternoon tea and Questions,

We will also require help on the Sunday before (April 29th) to pack the delegates information into bags and then on the Friday (May 4th) in the afternoon to look after the registration desk, also to help over the weekend with assisting with various things while conference is running.

Please contact either Carol or Dale via the email on the front page so we can allocate times etc

We encourage all CAS members to attend.

Register online at

<http://www.rasnz.org.nz/groups-news-events/conference-registration>

CAS Membership Subscriptions 2018-2019

The Current years subscriptions are due from 1st April 2018, If paid before 31st May 2018 the discounted price will apply.

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

PLEASE also include any changes to your contact details (eg: phone, email, address)

Full details are included on the last page of this newsletter.



MONTHLY MEETINGS:

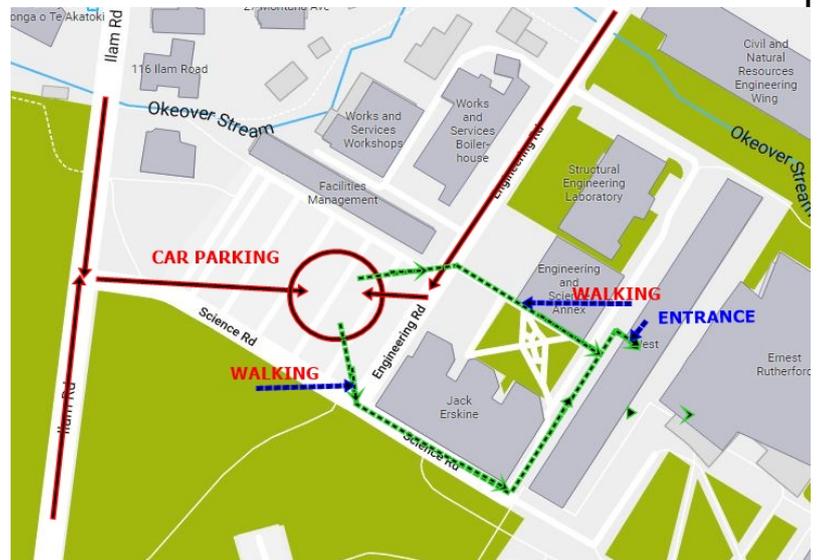
Carol Mc Alavey has again been busy organising speakers for this year, If you have any suggestion for topics please contact Carol via member1@cas.org.nz

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

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



Disabled parking is in Engineering Rd



Upcoming Guest Speakers:

17th APRIL 2018

Dr John Campbell, **Physics Department (Rtd), University of Canterbury**

15th MAY 2018,

Ashley Marles (**His astro trip to the USA**)

19th JUNE 2018,TBA

17th JULY 2018,TBA

21st AUGUST 2018,

Dr Jen Blake (**Nasa Ames**),

18th SEPTEMBER 2018,

Members Soapbox

16th OCTOBER 2018

Graeme Kershaw,

(**Retired Technician Physics & Astronomy University of Canterbury**)

"**My work at Mount John University Observatory**"

20th NOVEMBER 2018

Alan Gilmore, (**Former Superintendent Mt John University Observatory**)

(**correct as at 1st March 2018, Subject to change if 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,

At our March & April Committee meetings we Confirmed and Welcome:

Adrian Kelly
 Kerryn Calder
 Samantha Plows
 Zach Roberts
 Emily Anderson
 Isabel Thieller
 Karla Kilner
 John Davey
 Cheyenne Cottrell
 Izabella Yussof-Guy
 Oliver Stubbs
 Raymond Pointon
 Rhianna Blair
 Keren Eden
 Kelly Perazzolo and Family
 Liam Anderson
 Sienna Garrett
 Richard Wiltshire & Family



Table of Southern Meteor Showers

Shower	Dates		Moon	Peak Rate	RA	Dec	Near Star
	Active	Peak					
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



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OBSERVATORY NEWS

WORKING BEE 21ST APRIL

There will be a working bee at the observatory from 2 pm. We will paint the railings and tidy the lodge. We also need members with a gardener's eye to look at the plantings. Food is available at West Melton (Pizza at 2 fat possums and Thai), or bring your own. We will follow with some training on the telescopes for those who want to learn or brush up. After dark we can do some observing (weather dependent). This is also members night.

ROOF REPLACEMENT AND SEPTIC TANK REPAIR

The work on the Septic Tank Repair is due to start in the next couple of weeks as is the Roof Replacement.

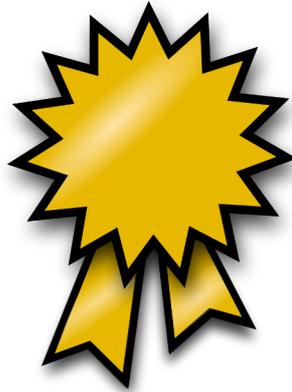
LAPTOPS

We now have 3 laptops for general use at the observatory and these are kept in the warm room, they each have their own charger, and have Stellarium, Pempro and Sharpcap installed, with more installations pending, at present 1 is being used in the lodge for presentations.

INTERNET AT THE OBSERVATORY

The committee has agreed to having this installed and this should happen in the next couple of weeks, information will be advised when completed.

CONGRATULATIONS TO OUR 2 NEW LIFE MEMBERS



This year we voted in two new life members.

Both Carol McAlavey and Malcolm Carr were very active members of CAS when I first joined during the 1990s, and both have served CAS as committee members and organisers for decades.

Most of you know them, and if not you have almost certainly seen them helping CAS operate; showing people the sky, setting up coffee & tea, organising conferences, welcoming people, acting in a variety of roles on committee, and helping with working bees at our observatory.

We rarely bestow this honour on members, and it was my great pleasure to be among those who nominated Carol & Malcolm for the life memberships they richly deserve.

CANTERBURY ASTRONOMICAL SOCIETY 2018 AGM REPORTS

In line with our constitution here are copies/summaries of reports presented at the AGM. The President, Treasurer and Observatory Director's reports were in the March CASMAG

EDITOR'S REPORT: DALE KERSHAW

I have made several changes to the layout and I am still fine tuning this process.

I have published 11 editions this last year.

When each months issue is completed, it is uploaded to the website and then emailed to the other New Zealand and Australian society's and send printed copies to our life members, our members who have requested a printed copy and to the required legal deposit office and several other places including Libraries.

I have started sending new members their 1st copy as a welcome with a note advising future issues will be available online via our website

I would like to thank those members who have submitted items/articles to be included and encourage all members to do this in the future.

As part of the Editors job I also receive and upload to the website other society and RASNZ newsletters.

As a committee member I have also attended the monthly committee meetings and have been involved with open nights and other events as often as it has been possible

I look forward to another year as your editor/ committee member if re-elected and would like to thank the rest of the committee for the support given to me.

LIBRARY REPORT: COLIN FORTUNE

This year the committee decided not to persevere with Sky & Telescope magazine but to continue with the DVD covering the whole year.

We have had many donations of books from Lionel Hussey and others, together with items from the Public Library that they no longer require.

Three new books have been purchased this year, two guides of interest to those starting out and a biography of John Bolton a Radio Astronomer who worked at Parkes in NSW and visited New Zealand many times.

I hope to have adisplay shelving unit built in the main room to show recent acquiaitions now that renovations are complete

I have not always been in good health this year but will persevere with plans this coming year if re-elected

MEMBERSHIP REPORT: GRANT POWELL

I received a member database handover from the former membership officer after the 2017 AGM. From that I confirmed 23 member resignations and no response from a further 35 members on the database.

With new recruits since the AGM, our membership figures stand at 162 members plus 1 corporate. There are a large number of new members awaiting voting approval at the next committee meeting.

We've therefore recruited 65 new members since the AGM in 2017. The details of which are on the current live database file. This is the largest and most successful year in the societies existence, by some margin.

The previous record was 23 (after some memberships were given out to students), before that, the best figure was in single figures.

WEBMASTERS REPORT: GRANT POWELL

The ticketing system for open nights converted over to an online system using "Eventbrite" It was very successful with 100% booking status being achieved for each open night date that was set over last year.

The Zoho email system for committee members has been used successfully, however committee members have been pushed to try and use the committee section of the website forums as a preferential communication.

Ticket booking allocated and live for the 2018 open nights calendar.

Eventfinder is listing the events in their calendar

Facebook and twitter accounts proved very popular.

Once again the incoming 2018-2019 Committee would like to thank the retiring committee members for their commitment, support and hard work during their time on the CAS committee and wish them well in the future.

INTRODUCING YOUR 2018-2019 CAS COMMITTEE

About Your New Committee

PRESIDENT: EUAN MASON

I am a professor at the University of Canterbury, where I teach silviculture and also make models of how trees grow. This is my third period as president; I was president for several years just after the turn of the century, and then for a few years following our earthquakes in 2011.

Many thanks to members for placing your trust in me.

I shall do my best to help CAS provide wonderful astronomical and social events for members, while also serving the community with open nights and making provision for astroimaging and research if people wish. I have been interested in astronomy for many decades, and I enjoy imaging, showing people the cosmos, looking through superb telescopes, and I dabble in sunspot counts, occultations and other astro-research topics when time allows.

Please feel free to ask if you have any queries or if I can help you get started with knowing the sky or setting up equipment.



OBSERVATORY DIRECTOR: TERRY RICHARDSON

Moved to West Melton in 2000 for two reasons. One was to be away from city noise and pollution, the other was to see the stars at night. It was not until near retirement (from medicine and aviation) about 5 years ago he decided to buy a telescope. With Trial and error and lots of internet consultation he learned how to set the telescope up and integrate it with a computer for information and control and then started Astrophotography. As with all astrophotography this is a developing interest and skill. He joined the society about 3 years ago to learn more by talking with like minded people. The passion for the night sky has grown to the point that he now can run all the telescopes at the observatory.



VICE PRESIDENT: ROB GLASSEY

Many of you will know me from the Practical Astronomy talks or from the open nights. This is my fifth year on committee, and third as Vice President. I have been actively observing the sky since 2004 when I started looking after a family holiday home near Staverley, and I got drawn into actual observing by the dark night skies out there. I use a wide variety of telescopes, of all sizes, and I enjoy chasing the many strange and wonderful objects that can be found in the night sky.

By day I pretend to be an electronics engineer.



INTRODUCING YOUR 2018-2019 CAS COMMITTEE (Cont)

WEBMASTER: SIMON LEWIS

I have been interested in space and astronomy since I was young and in more recent years have indulged in a passion for telescopes, both visual and radio. My other hobby, amateur radio, has allowed me to explore and experiment in satellites, meteor, aurora and moonbounce communications. My telescope interest led me to buying a 10" LX200 some years ago but I have migrated more to astrophotography these days. I am currently building a roll off roof obs at home in Greendale. I love doing outreach and seeing the delight on the kids faces. My professional role as a project and IT programme manager gives me some great skills to use for CAS and I look forward to serving on CAS committee and developing CAS for its members.



MEMBERSHIP SECRETARY: CHRISTINA LEWIS

Even as a little girl I had an interest in astronomy - while lots of the other girls wanted Barbies I would have loved a telescope! My interest while long lived has been at a very amateur level - it is my husband who has all the cool scopes. Currently I work at Community and Public Health and am working through a Post Graduate Diploma in Public Health. I am also involved in my local church (my undergraduate is in theology) and I have three horses at home who like to join me when I go out into the paddocks to look at the stars...actually, I suspect its good more to do with the pony treats I have in my pockets:-) . I am really keen on everyone who becomes a member feeling welcome here wherever their level of interest in astronomy is at.



COMMITTEE: CAROL MCALAVEY

I have been involved with CAS for 32 years, both on the committee and involved with outreach at the Arts Centre Townsend telescope and West Melton Observatory. I was also involved with Stardate SI and Stargazers Getaway for many years. The last 2 years I have been the lead on the local organising committee for the RASNZ 2018 conference to be held here in Christchurch. My main interest in astronomy is aurora and its wonderful displays...now all I need is a good camera to record them!!



EDITOR: DALE KERSHAW

I have been a CAS member for 4 years, and this is my second year as your editor. With a keen interest in astronomy for many years, hand crafts and gardening. I am Married to Graeme Kershaw, We are both now working on the rebuild/ restoration of the 153 yr old Townsend Teece telescope, which will be returned to its former site at the Arts Centre when complete. My other work is running a sewing business from home,



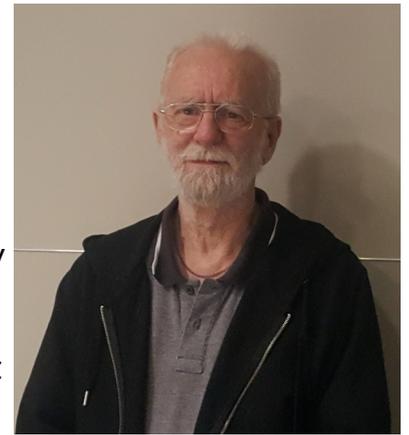
INTRODUCING YOUR 2018-2019 CAS COMMITTEE (Cont)

COMMITTEE: GRAEME KERSHAW

I joined CAS back in the 1960's as a young teenager. I was in awe of the knowledge and enthusiasm I encountered and it was that I guess, that fired my interest in Astronomy.

In early 1966 I joined the technical staff of the Dept of Physics at U of C. By a series of amazing coincidences my love for Astronomy was fuelled even more. I became involved in the Townsend Telescope and was responsible for much of its maintenance in the coming years. I must have left a good impression with powers that be, and I was offered the role of Christchurch based Mount John technician in the early 1970's. I worked for the observatory for close to 45 years and became involved in many amazing projects, these included the rebuild of the 60cm Optical craftsman telescope, the design and building of the mechanical systems of the One Metre McLellan telescope and the design of the mechanical systems of the HERCULES spectrograph. Many other smaller instruments were also built by me. With my retirement came a little spare time which allowed me to rejoin CAS and I have enjoyed the association immensely. In addition I have undertaken the task of rebuilding and renovating the Townsend Teece telescope.

('Teece' was added to the name in recognition of the funds donated for the restoration project.) The finished telescope in its new tower should be available to the public in 2020.



More on your new committee in next months issue

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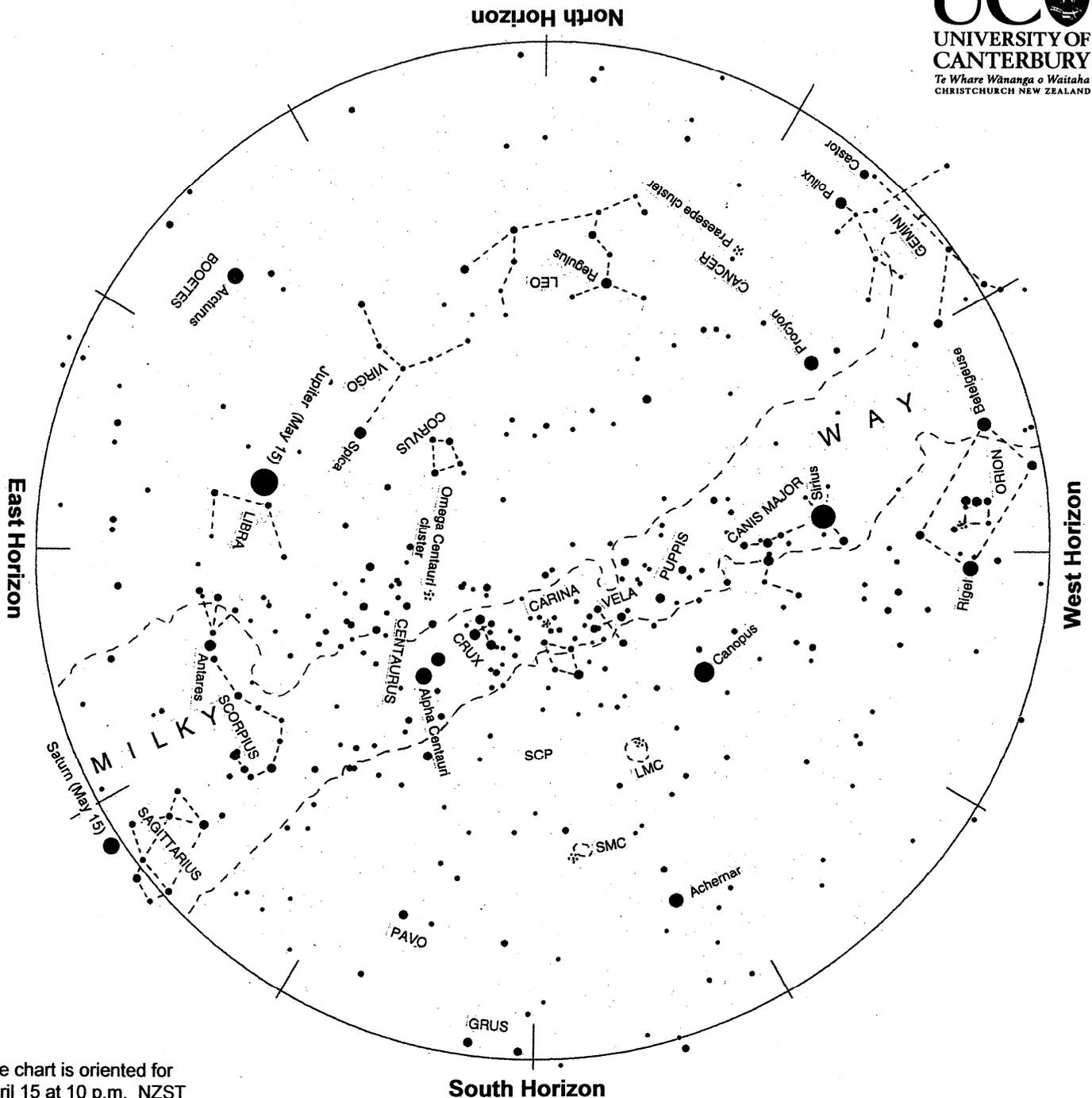
The Cornwall Sewing Room

Dale Kershaw
71 Cornwall Street
St Albans
Christchurch
PH 03 9806057
Cell 0272426376

From Your Editor

Thank you for my re-election,
I hope you are finding the new layout easy to use. I am still fine tuning this process. If you have any suggestions please email to me.
As always I look forward to receiving your items to include in future issues and I welcome contributions or suggestions and encourage you to send any articles or ideas you would like to be see included in upcoming issues.
Please email to editor@cas.org.nz

Dale Kershaw



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

Evening sky in May 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.

Two bright 'evening stars' are seen soon after sunset. Silver Venus (not shown on the chart) is in the northwest and sets about 90 minutes after the Sun. Golden Jupiter appears in the east and remains in the sky all night. Creamy-white Saturn is low in the southeast. Sirius, the brightest true star, is midway down the western sky. Directly below it is Orion with bright stars Rigel and Betelgeuse with 'The Pot' between them. Canopus is southwest of overhead. Crux, the Southern Cross, and the Pointers, Alpha and Beta Centauri, are southeast of the zenith. Low in the northeast is Arcturus, often twinkling red and green. The Milky Way spans the sky.

The Evening Sky in May 2018

Two bright evening 'stars', Venus and Jupiter, appear soon after sunset. Silver **Venus** is in the northwest, setting 90 minutes after the Sun (so not on the chart). Golden **Jupiter** is in the east, moving higher in the sky through the night. It is due north at midnight and sets around dawn. A thin crescent Moon will be left of Venus on the 17th. The full Moon will be near Jupiter on the 1st then again on the 27th and 28th.

Two fainter planets follow. **Saturn** rises in the southeast around 9 pm at the beginning of the month, around 7 pm at the end. It is cream-coloured and the brightest 'star' in that part of the sky. Orange-red **Mars** rises an hour later than Saturn at the beginning of the month. It is brighter than Saturn and gets brighter as we catch up on it. By the end of the month it is up at 9 pm. The Moon will be near Saturn on the 4th and 31st-June 1st. The late-rising Moon will be near Mars on the 6th.

Soon after dusk **Arcturus** appears in the northeast, often twinkling red and green as the air breaks up its orange light. It is the brightest red star in the sky (not counting Mars). It is 37 light years* away and 120 times brighter than the sun.

Sirius, the brightest star, is northwest of the zenith. It is sometimes called the 'dog star' as it marks the head of Canis Major, the larger of the two dogs that follow Orion the Hunter across the sky. Sirius appears bright because it is 23 times brighter than the Sun in true brightness and because it is relatively close at nine light-years. **Canopus**, the second brightest star, is southwest of overhead. It is a truly bright star: 310 l.y. away and 13,000 times brighter than the Sun. Midway up the southeast sky are 'The Pointers', Beta and **Alpha Centauri**.

Below Sirius are bluish **Rigel** and reddish **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. Rigel is a super-hot 'blue giant' star, 40,000 times brighter than the Sun and 770 l.y. away. Betelgeuse is a cooler 'red giant', 9000 times the Sun's brightness and 430 l.y. away.

Crux, the Southern Cross, is southeast of the zenith, to the right of 'The Pointers'. Alpha Centauri, the brighter Pointer, is the closest naked-eye star, 4.3 light years away. Beta Centauri, like most of the stars in Crux, is a very luminous blue-giant star hundreds of light years away.

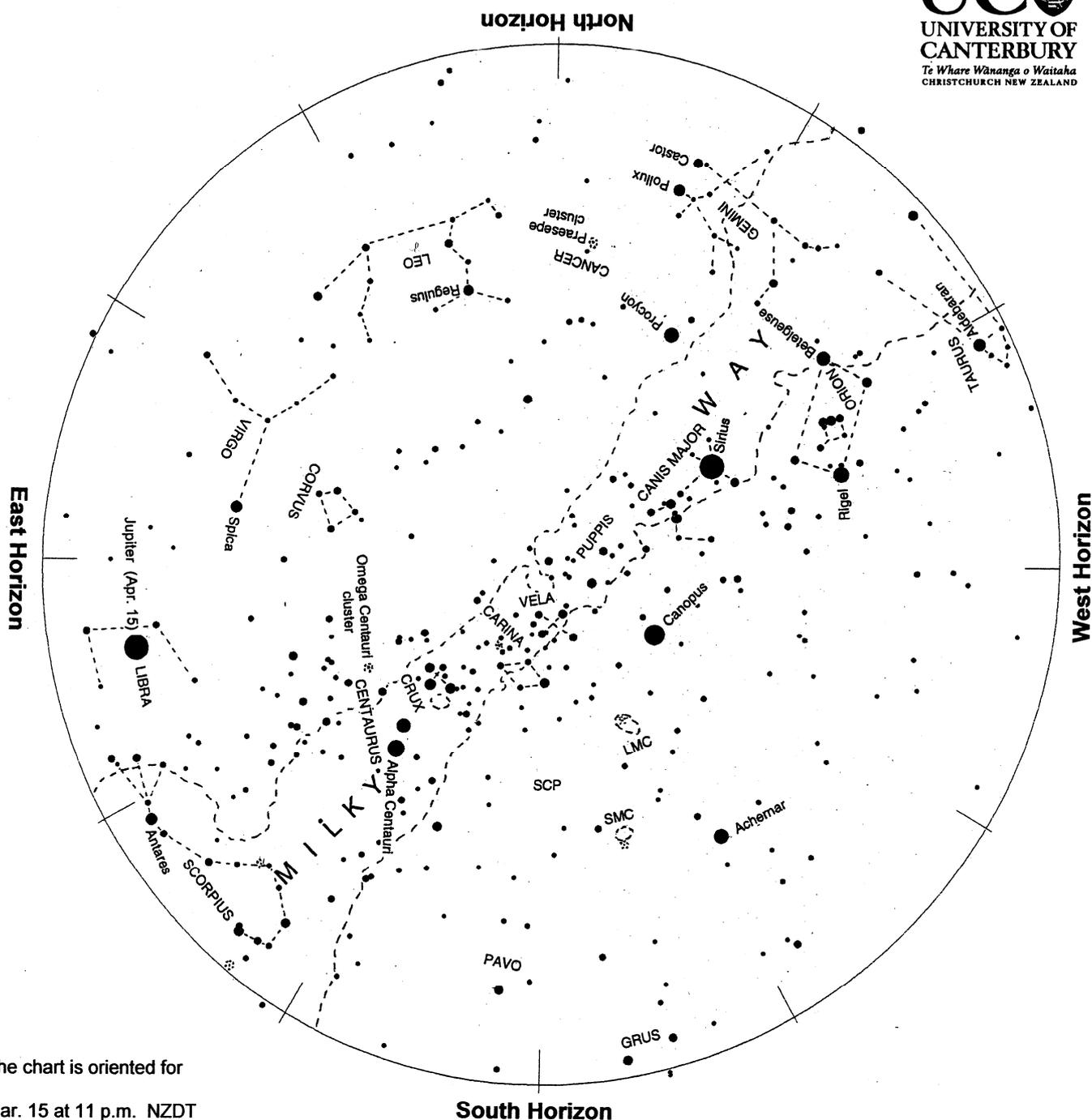
Below Jupiter and well to the right is orange **Antares** marking the body of **Scorpius**, the Scorpion. Antares is a red-giant like Betelgeuse; 600 light years away and 19 000 times brighter than the sun.

The **Milky Way** is brightest in the southeast toward **Scorpius** and **Sagittarius**. In a dark sky it can be traced up the sky past the Pointers and Crux, fading toward Sirius. The Milky Way is our edgewise view of the galaxy, the pancake of billions of stars of which the sun is just one. The thick hub of the galaxy, 30 000 light years away, is in Sagittarius. The nearby outer edge is by Orion where the Milky Way is faintest. A scan along the Milky Way with binoculars shows many clusters of stars and some glowing gas clouds, particularly in the **Carina** region and in Scorpius.

The Clouds of Magellan, **LMC** and **SMC**, are midway down the southern sky, easily seen by eye on a dark moonless night. They are small nearby galaxies. The Large Magellanic Cloud is 160 000 light years away and is about 5% the mass of our Milky Way galaxy. The Small Cloud is around 200 000 light years away and 3% the mass of our galaxy. That's still many billions of stars in each.

Jupiter is always worth a look in a telescope. Its four big 'Galilean' moons look like faint stars near the planet. One or two can be seen in binoculars, if steadily held. Jupiter is closest now: 660 million km away. Saturn is also a great sight in any telescope. Its rings are near maximum tilt making it appear oval at low magnification. Saturn is 1390 million km away. Venus is 205 million km and Mars 110 million km in May. Both planets are small discs in a telescope just now but will get bigger later as they come closer.

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



The chart is oriented for

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

Evening sky in April 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 or clockwise shift each night as we orbit the sun.

Venus and Jupiter are 'evening stars' on opposite sides of the sky. Venus (not shown on the chart) appears briefly on the western skyline soon after sunset. Jupiter rises around 8 pm at the beginning of the month. By the end of April it is up at dusk. 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. Crux, the Southern Cross, and The Pointers, Alpha and Beta Centauri, are high in the southeast sky.



The Evening Sky in April 2018

Two 'evening stars' appear in April. At the beginning of the month brilliant **Venus** is low in the west, setting 50 minutes after the sun. Golden **Jupiter** rises on the east side of sky around 8 pm NZST. Through the month Venus sets later and Jupiter rises earlier. By the end of April the two planets are on opposite sides of the sky at dusk. The brightest real stars, Sirius and Canopus, appear at dusk.

A small telescope will show the disk of Jupiter with its four bright 'Galilean' moons lined up on each side. Binoculars, held steadily, will sometimes show one or two moons looking like faint stars close to the planet. Jupiter is 670 million km away mid-month. The moon will be near it on the 3rd.

Sirius is the first true star to appear at dusk, midway down the northwest sky. It is soon followed by **Canopus**, southwest of the zenith. Below Sirius are **Rigel** and **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**.

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

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

Low in the north is the **Praesepe cluster**, marking the shell of **Cancer** the Crab. Praesepe is also called the Beehive cluster, the reason obvious when it is viewed in binoculars. Lower and further left 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 l.y. from us. Castor is a hot white star about 47 times the sun's brightness and 51 l.y. away.

Mars and **Saturn** make a close pair early in the month, rising a little south of due east around 11 pm. Reddish Mars is above off-white Saturn. They are the same brightness and are the brightest 'stars' in that part of sky. In the background is the brightest part the Milky Way. The Moon will be near Saturn and Mars on the 7th. The apparent closeness of the two planets is just a line-of-sight effect. On April 1st Mars is 165 million km away while Saturn is 1490 million km from us. Slow-moving Saturn keeps fixed against the star background, rising four minutes earlier each night while Mars slips further down the sky. By the end of the month Saturn is rising around 9 pm while Mars rises an hour later. By then Mars will be brighter than Saturn. Because Mars is small, half the diameter of Earth, it is a tiny disk in a telescope.

A small telescope shows Saturn as an oval, the rings and planet blended. Larger telescopes separate the planet and rings and may show Saturn's moons looking like faint stars close to the planet. Titan, one of the biggest moons in the solar system, orbits about four ring diameters from the planet.

Mercury makes its best morning sky appearance of the year. It begins to rise into the eastern dawn sky in the first week of April but won't be noticeable till mid-month. By then it is rising nearly two hours before the sun and is the brightest 'star' on the eastern skyline. It stays in the eastern dawn till late May.

It is around 100 million km away, mid-month and looks like a small crescent in a telescope, waxing to quarter-moon by month's end. The very thin crescent Moon is near Mercury on the 14th and 15th.

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

CAS Committee and Officers 2018/2019

Public Nights and Group Bookings

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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

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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: _____