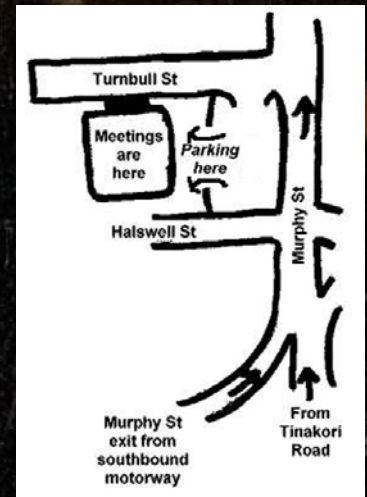


# Newsletter

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## IN THIS ISSUE:

PRESIDENT'S REPORT FOR FEBRUARY	2;
OBSERVING AT PAUATAHANUI	2;
OBSERVING AT THOMAS KING	2;
COUNCIL OF THE WELLINGTON ASTRONOMICAL SOCIETY INC.	3;
ASTRONOMY EVENTS 2010	4



You are invited  
on February 3rd  
@8pm to Ross  
Powell's talk: 'The  
Life and Science  
of Galileo'

**7.30pm Wednesday  
3rd of February 2010  
Science House,  
Turnbull Street,  
Thorndon**

**02-2010**

Wellington  
Astronomical  
Society





## PRESIDENT'S REPORT FOR FEBRUARY

I will start by wishing you all a Happy New Year. Let's hope that the weather improves so we can at least see the Night Sky. I am still waiting for the Summer to start.

Work is progressing at Carter Observatory which is getting ready for a mid-March opening.

This means that the WAS meetings will continue at the

News from the WAS committee meeting held on January 25th at the Thomas King Observatory.

We hope to present the WAS Audited Report to the February meeting.

There are still a number of members who have not paid their subs which were due back in September if subs are not paid by March they will be struck off.

This year is going to be a quieter year for the WAS without having to worry about the IYA.

However there will be at least 3 public events we will be involved in with the first one occurring on March 27th this will be Earth Hour. We will inform you of the other events when they are programmed. We are considering another Telescope Workshop for later in the year as the last one was very successful so watch this space for details.

We have two 6' Dobbs for Hire for only \$20. This is refundable on the return of the telescope providing it is in the same condition as it went out in.

February 3rd talk: 'The Life and Science of Galileo' with Ross Powell 8pm

March 3rd talk: Mars with Frank Andrews

The Balance sheet and accounts from the Auditor have not as yet been received but a draft version is available on our website. The audited accounts will appear there when we receive them from the auditor.



Stormy clouds on Wellington's sky. When could we please see the stars this year?

Last time I looked through a telescope was in Mid-December.

The observing event we had planned for December 12th at Pauatahanui had to be canceled because of rain. The next observing event at Pauatahanui will be on Saturday 13th February.

The 12" Meade telescope at Pauatahanui has been upgraded with the new Meade Super Wedge and a new Slow Motion Control to hold Cameras on the 12" Meade. This will enable a user to adjust the camera to wherever they wish without having to move the main telescope.

There has not been any observing at Pauatahanui since November.

Royal Society rooms in Turnbull Street until April at the earliest.

On February Saturday 20th a Light Pollution Workshop will be run from 1-5pm at Carter Observatory for more details see the WAS website [www.was.org.nz](http://www.was.org.nz).

Ross Powell will present his Galileo talk 'The Life and Science of Galileo' on February 3rd at the Royal Society rooms in Turnbull Street.

With Mars starting to feature in the Night Sky and at present rising around 10.30pm therefore our March talk will be about Mars.

### OBSERVING AT PAUATAHANUI

The next observing at the Pauatahanui will be on February the 13th after 8:00 PM.

If the weather is looking doubtful please contact John Field on his mobile 021-255-1904 to see if the session is going ahead.

### OBSERVING AT THOMAS KING

All public observing evenings will be held at the Thomas King Observatory run by our Observatory Director Ross Powell. There are public observing evenings at the Thomas King nearly **once a week** starting as soon as it gets dark depending on the weather.

Ring Ross on 389 9765.



## **COUNCIL OF THE WELLINGTON ASTRONOMICAL SOCIETY INC.**

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## **M27, the Dumbbell Nebula**

*This planetary nebula is 1,400 light years distant in the constellation of Vulpecula. It was discovered in 1764 by Charles Messier and was the first planetary nebula observed. The name “planetary nebula” was given due to the spherical shape that resembles a planet. The nebula is the gas that has been lost into space during the stars final stages of its life. In the colour image the different colours are from the ionisation of different gasses present in the nebula. The central star in the nebula is the white dwarf corpse of the original star and is the largest radius white dwarf known. The Dumbbell is easily seen in binoculars and in any size telescope with a visual magnitude of 7.5 and a radius of 8 arc minutes. This image, by John Field, is a stack of 20 30-second images taken with a Canon 100D at ISO 800 through the Pauatahanni telescope at f6.3. The image has been dark subtracted and processed in Adobe Photoshop.*





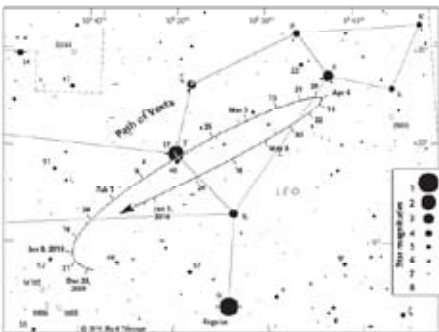
## ASTRONOMY EVENTS 2010

### January

January 7 1610 Galileo Galilei's discovery of Jupiter's moons.  
 Jan 10 – 12 IYA Closing Ceremony

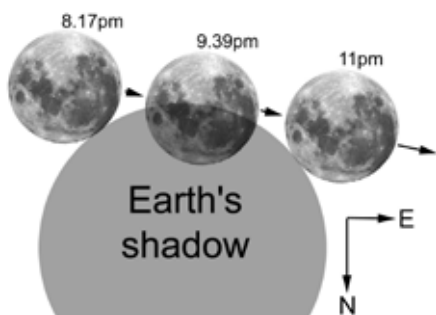
### February

Vesta is not the largest asteroid, it generally becomes the brightest around its season of opposition; its unique surface material is less dark colored than most of the stuff in the asteroid belt. Vesta reaches opposition on the night of February 17–18, when it will shine at magnitude 6.1.



### June

June 26th 2010 – Partial Lunar eclipse  
 Visible from all of Australia and NZ.  
 The Moon will pass through the southern part of the Earth's shadow; at maximum eclipse (9.39pm AEST) over half the Moon's diameter will be covered.



### July

July 2010 – Four planets after sunset  
 July sees a dance of the planets Mars, Venus and Saturn in the western sky. By the end of the month, they are joined by Mercury. The diagram at left shows them together on the 31st, when Mars is closest to Saturn.

Mercury passes Regulus on the 28th.



### August

August 2010 – Triple conjunction with moon  
 The four planets are still visible mid August, and are joined by the Moon on the 13th. Planetary conjunctions:

- 8 August: Venus closest to Saturn
- 8 August: Venus closest to Mars.



### October

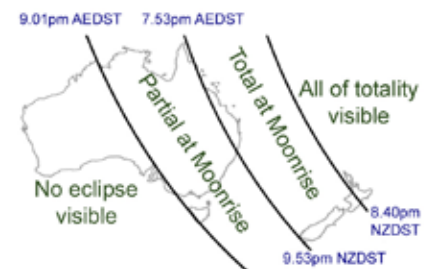
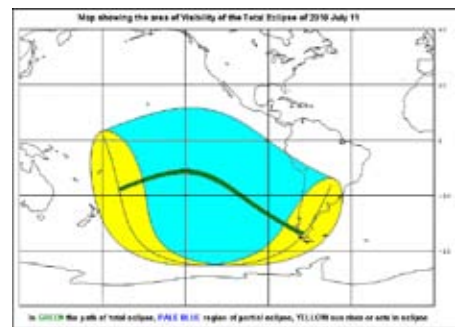
International Space Week  
 October 4 – 10  
 Astronomy Day – 16 October –  
 Astronomy Week 11 – 17

### December

December 21st – Total Lunar Eclipse – much of New Zealand and the Queensland coast will see the Moon rise totally eclipsed.

Times of events:

Phase	NZDST
Starts	7.32pm
Totality starts	8.40pm
Maximum	9.18pm
Totality ends	9.53pm
Ends	11.01pm





## The Evening Sky in February 2010

Sirius is the first star to appear at dusk, north of overhead. Below it, and a bit to the left, 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'. Orion's belt points down and left to a V-shaped pattern of stars making the face of Taurus the Bull. Left again, toward the northwest and lower, is the Pleiades or Matariki star cluster, also known as the Seven Sisters and Subaru. Low in the northeast is Mars, bright and orange coloured. From northern New Zealand the bright star Capella is on the north skyline. The sixth brightest star, Capella is 190 times brighter than the sun and 42 light years\* away.

Sirius, 'the Dog Star', marks the head of Canis Major the big dog. A group of stars above and right of it make the dog's hindquarters and tail. Sirius is the brightest star in the sky both because it is relatively close, nine light years away, and 23 times brighter than the sun. Procyon, in the northeast below Sirius, marks the smaller of the two dogs following Orion the hunter across the sky.

Mars is down the sky from Sirius and Procyon. We passed by Mars in late January. At mid Month it is 105 million km away and small in a telescope. It will gradually fade as we leave it behind.

Mars is half the diameter of Earth. It gets its apricot colour from the dust that covers the planet. The dust is rust derived from the water that covered Mars billions of years ago.

Rigel, directly above Orion's belt, is a bluish supergiant star, 40 000 times brighter than the sun and much hotter. It is 800 light years away. Orange

Betelgeuse, below the line of three, is a red-giant star, cooler than the sun but much bigger and 9 000 times brighter. It 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 around 1300 light years away.

The V-shaped group pattern making the face of Taurus the bull is called the Hyades cluster. It is 130 light years away. Orange Aldebaran, Arabic for 'the eye of the bull', is not a member of the cluster but merely on the line of sight, half the cluster's distance. The Pleiades cluster, impressive in binoculars, is 400 light years from us. Its stars formed around 100 million years ago.

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 can be traced up the sky, fading where it is nearly overhead. It becomes very faint east or 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 high in the south sky, easily seen by eye on a dark moonless night. They are two small galaxies about 160 000 and 200 000 light years away.

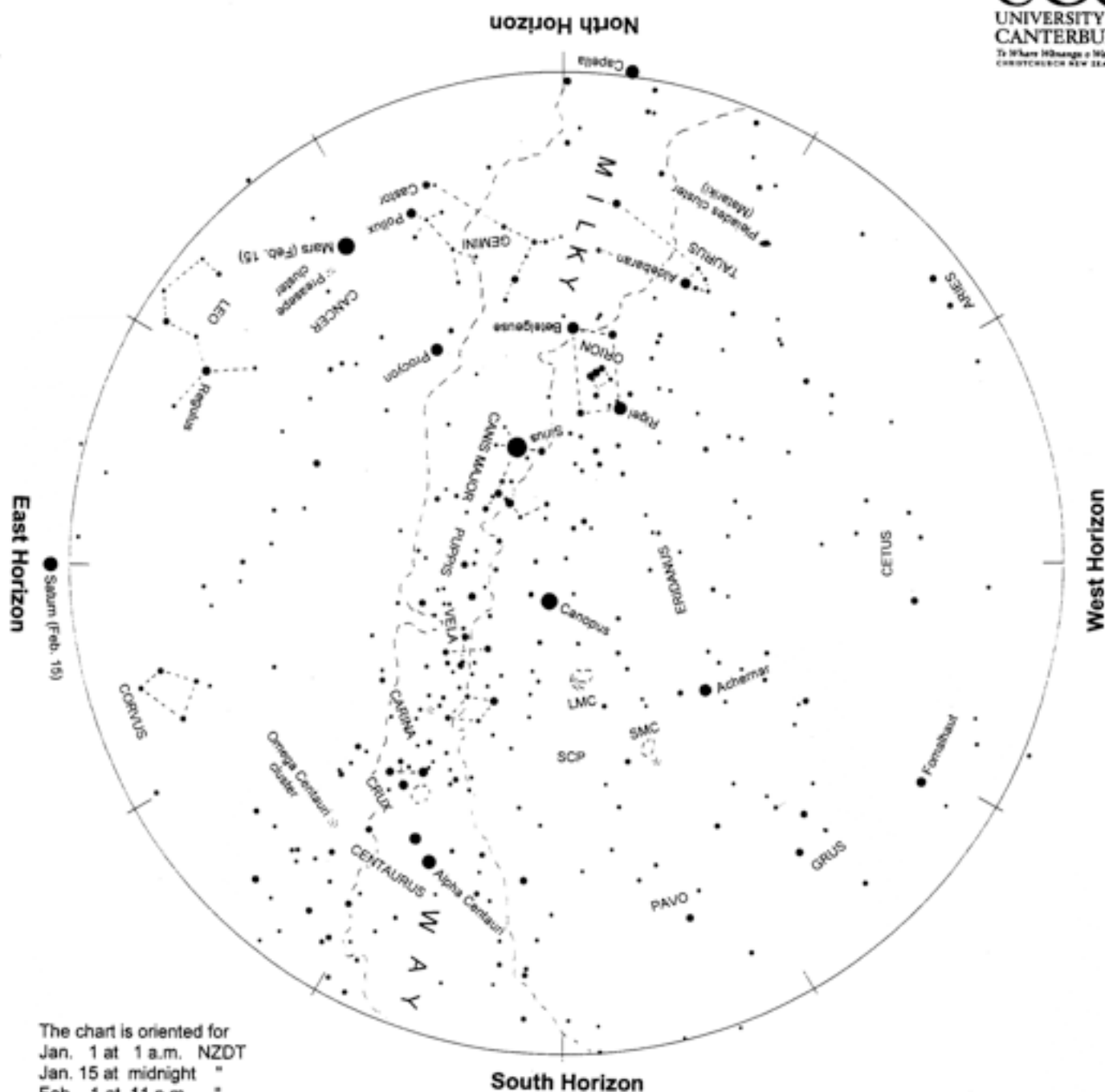
Saturn rises in the east around 10 pm, looking like a moderately bright star. To its right is Spica, the brightest star in Virgo, similar in brightness to Saturn. Saturn's rings are nearly edge on to us this year. They look like a thick line through the planet. Saturn is 1300 million km away in February.

Brilliant Venus is beginning a slow rise into the western evening sky as it catches up on us from the far side of the sun. It might be seen near the southwest horizon soon after sunset in late February.

Mercury is in the dawn sky, rising in the southeast two hours before the sun in early February then sinking lower in the dawn twilight.

\*A light year (ly.) is the distance that light travels in one year: nearly 10 million million km or 10<sup>13</sup> 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.*  
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100109



The chart is oriented for  
 Jan. 1 at 1 a.m. NZDT  
 Jan. 15 at midnight  
 Feb. 1 at 11 p.m.  
 Feb. 15 at 10 p.m.

### Evening sky in February 2010

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

Sirius, the brightest star, is north of overhead at dusk. Canopus, the second brightest star, is south of the zenith. Mars, bright and orange, is low in the northeast. Orion, containing 'The Pot', is midway up the north sky with Taurus and the Pleiades/Matariki toward the northwest. The Southern Cross and Pointers are midway up the southeast sky. The Clouds of Magellan, LMC and SMC, are high in the south sky. Saturn rises due east in the late evening. Brilliant Venus might be glimpsed setting in the southwest twilight in late February. See over page for more information.

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)