

Newsletter

WELLINGTON ASTRONOMICAL SOCIETY

July 2011, Volume 41, Number 6, ISSN 01 147706, www.was.org.nz

MATARIKI

Wednesday, 6th of July,
7:30 PM at Carter Observatory

**THIS MONTH'S
MEETING FEATURES**

Lunar & Matariki Calendar a presentation by Frank Andrews

07-2011

In this issue:

<i>PRESIDENTS REPORT FOR JULY 2011</i>	2
<i>OBSERVING AT PAUATAHANUI</i>	3
<i>OBSERVING AT THOMAS KING</i>	3
<i>WAS JULY'S TALK RESUMÉ</i>	3
<i>COUNCIL OF THE WELLINGTON ASTRONOMICAL SOCIETY INC.</i>	3
<i>JUNE 2011 CROSSWORD ANSWERS</i>	3
<i>SOME ASTRONOMICAL RELATED SIGHTS ON A RECENT TRIP TO EUROPE</i>	4
<i>NEW ZEALAND'S STARLIGHT RESERVE - A BRIEF HISTORY</i>	5
<i>THE EVENING SKY IN JULY 2011</i>	7
<i>CROSS WORD WITH MURRAY FORBES</i>	8

Wellington
Astronomical
Society





Presidents Report for July 2011

The month of June was very quiet on the astronomy scene although we have had one or two good nights but that was about all.

Observing at Pauatahanui on June 4th was clouded out and canceled so we moved observing to the following Saturday June 11th and this too was clouded out. Observing seems to be getting less and less frequent as the weather gets cloudier and wetter.

Guest speaker Fred Watson's public talk "Timewarp" about Time Travel and Space was the highlight of the conference although there were some other excellent presentations. Fred also presented a talk called "An Alien Like You" this was about Life on other worlds.

If you ever get the chance to hear Fred Watson talk you will be enthralled and his humour is just outstanding.

about Light Pollution. Most enjoyable and well done Haritina.

I also enjoyed the talk by Gary Sparks "Thinking Outside the Envelope" this was about his collection of Space Stamps and some of the stories behind its superb and very extensive collection.

The conference dinner was excellent and



The Reception hall



Borg, Martian, Romulan, Arthur Dent and Frank as himself. Photography by Dr Who

On June 4th Frank Andrews spoke to another enthusiastic group in Levin at Ron Fishers Stargazers group and he spoke about Matariki. Frank is also talking to our July meeting and this promises to be a very educational topic about the Lunar Calendars & Matariki.

My talk about "Peter Read the Peoples Astronomer" went together quite well as I only had a couple of hours to prepare as it was different to what I showed at the RASNZ conference.

Frank gave us an excellent overview of the RASNZ conference. I enjoyed the conference very much.

David Malin the second guest speaker spoke about 'The discovery of the Southern Cross'. David was here to run the Photographic Workshop which was held on the Monday with about 25 attendees unfortunately I was not one of them as I had other business to attend to. I am told that the workshop was excellent and attendees learned a lot from it.

Our own Haritina presented a different version of her trip to the Mars desert research station this was Sunday morning she then stepped in for Steve Butler and Deborah Hambly and presented a Light Pollution presentation which she followed up with a question and answer session

had as a theme 'Your Favourite Sci-Fi Character', there were some excellent costumes. Fred Watson's after dinner speak was called "Poles Apart? Extremes of Art and Science".

Next years conference will be in the Wairarapa and hosted by the Phoenix Astronomical Society.

The Minor Planet symposium on the Thursday & Friday prior to the RASNZ conference was well attended with 30 people and was a most interesting symposium which was all about timing and accuracy and how to achieve exact timing. A new timing device was launched by David Herald which unfortunately is being built in the USA and is not cheap.

On July 9th there will be a first quarter moon.

The August talk will be with Dr Melanie Johnston-Hollitt talking about the SKA (Square Kilometer Array) she will come to us from Victoria University.

continued in page 5



Warwick and Marilyn - Pride and Prejudice Zombies



OBSERVING AT PAUATAHANUI

The next observing evening at Pauatahanui is on July 9th starting at 7.00 pm, alternative July 23rd. **If doubtful please ring Chris Monigatti on his mobile 021 890 222 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. from 7:00 pm. **Ring Ross on 389 9765** to check if there are public observing evenings on most FRIDAYS, starting as soon as it gets dark depending on the weather and Ross's availability.

WAS July's talk resumé

Presenter: : Frank Andrews

Duration: approx. 50 minutes

TITLE: Lunar & Matariki Calendar

By looking at the Lunar Calendar we are looking at the Origin that we used to measure time.

We then look closer at the Lunar Calendar and look at the way it is harmonised with the Solar Calendar.

In particular taking Matariki as an example of the process.

COUNCIL OF THE WELLINGTON ASTRONOMICAL SOCIETY INC.

President:

Gordon Hudson

gordon@kpo.org.nz

Ph 04 236 5125

Vice-President: **Roger Butland**

roger.j.butland@xtra.co.nz

Ph 04 478 0419

Secretary: **Ross Powell**

rossalanpowell@gmail.com

Ph 04 389 9765

Treasurer: **John Talbot**

john.talbot@xtra.co.nz

Ph 04 293 4620

Newsletter Editor:

Haritina Mogosanu

editor@was.org.nz

Committee

Frank Andrews

frank.andrews@paradise.net.nz

Chris Monigatti

chrison@xtra.co.nz

Mob 021 890 222

John Homes

john.homes@actrix.co.nz

Aline Homes

aline.homes@actrix.co.nz

Positions Outside Council

Email newsletter

Murray Forbes

murray_forbes@xtra.co.nz

www.was.org.nz

June 2011 Crossword answers

Across

1. POLARIS, *The North Star*; 5. CANOPUS, *Autahi*; 8. NORTH, *thorn (anagram)*; 10. BAR, *some spiral galaxies have one*; 12. GIOTTO, *Name of ESA spacecraft that intercepted Halley's comet*; 14. ENCELADUS, *end clause (anagram)*; 16. MASS, *I weight 6 times less on the Moon, but still have the same ???*; 17. ALGOL, *Demon star*; 19. HYADES, *an open cluster in Taurus*; 20. BLUEMOON, *Once in a ...*; 21. HALO, *angels and galaxies both have one*; 22. HST, *an orbiting telescope*; 27. DAY, *24 hours*; 31. LMC, *could be mistaken for a cloud*; 32. SMC, *satellite galaxy to the Milky Way*; 33. NOON, *mid-day*; 34. LOKI, *volcano on Io*; 35. DENEBA, *alpha Cygnus*; 37. DESDEMONA, *A satellite of Uranus, a character in Othello*; 38. TELESCOPE, *elect pose (anagram)*; 40. SCORPIUS, *constellation with a sting*; 44. REDGIANT, *A type of star whose core hydrogen has been used up.*; 47. KEPLER, *Early German astronomer -formulated 3 laws of planetary motion*; 49. ION, *an arrested atom*; 50. FUSION, *process that powers stars*; 51. KILOGRAM, *The SI unit of mass*; 52. UFO, *flying saucer*; 53. STARDATE, *A NZ astronomy summer getaway*;

Down

1. PERIGEE, *When the Moon is closest to the Earth*; 2. ICE, *frozen liquid*; 3. GIBBOUS, *a phase of the Moon*; 4. ANALEMMA, *figure of 8 pattern formed by the Sun's position at the same time of day over a year*; 6. APOGEE, *When the Moon is furthest from the Earth*; 7. QUASISTELLAR OBJECT, *full name for quasar*; 9. VEGA, *alpha Lyr*; 11. BINOCULARS, *robin claus (anagram)*; 12. GAS, *solid, liquid or ...*; 13. ECLIPTIC, *plane of Earth's orbit around the Sun*; 15. SOHO, *satellite observatory studying the Sun*; 18. HOUR, *unit of time*; 23. RUTHCRISP, *Carter Observatory's public telescope*; 24. PLEIADES, *The Seven Sisters*; 25. PHOBOS, *A Moon of Mars*; 26. BOLIDE, *A meteor that appears to explode*; 28. PANDORA, *a shepherd satellite of Saturn's F ring, also the first women in Greek mythology*; 29. ECLIPSE, *to block light from another object*; 30. VIRGO, *Constellation with Spica*; 31. LONGITUDE, *Latitude and ?*; 33. NOVA, *a new star*; 36. LEO, *A lion circling the Earth*; 39. PEGASUS, *The winged horse constellation*; 41. SETI, *A serious search for aliens (abbrev)*; 42. BINARY, *a double star*; 43. VENUS, *a very cloudy planet*; 45. IO, *One of the Galilean satellites*; 46. ATOM, *smallest indivisible piece of a element*; 48. PAVO, *The Peacock constellation*;



Some astronomical related sights on a recent trip to Europe

By John Talbot

During May and early June my wife and I travelled across Turkey and Europe most by riverboat on the Rhine-Maine-Danube rivers and finished up in Prague.

It was surprising (but maybe should not have been) how many places had connections with famous astronomers or astronomy.

Apparently Kepler died in Regensburg while staying there trying to recover some monies owing to him.



And in Prague there was an even smaller one room Kepler museum with this memorial in the courtyard.



The astronomical instruments gallery of the Clementinum (for St Clement) museum in Prague.



In Istanbul, Turkey I spotted the new moon echoing the crescent on the top of a minaret.



In Regensburg, Germany, we came across a Keplerstrasse and found a small museum (which was shut on Monday) but had this memorial bust and plaque accessible.



In Salzburg, Austria I spotted this punning poster in the window of a fancy chocolate shop. I could find no reference to him in the guide book but clearly at least some locals honour him.

The Astronomical clock in Prague, Czech Republic displays 24 hour time, Moon phase and season in the top part and Astrological Constellations in the bottom.



President's report, continued from page 2

We are still trying to get our 6" dobsonians returned so that they can be checked. So if you have one we would like it returned at the next meeting. I have already have two returned. We have other members waiting for these telescopes.

We are still requiring members to assist at the Carter Observatory observing on Saturday nights so if you haven't volunteered yet now is your chance to do so. Register your name with our secretary Ross Powell on 389 9765.



And finally the highlight for me was meeting with Dr Josef Dürsch of the Charles University in Prague. We had just finished a nice pub dinner together when I took this. Josef is one of the key guys behind the Database of Asteroid Models from Inversion Techniques (DAMIT). He uses some very clever maths to infer the 3D shape of asteroids from their long term brightness light curves. See <http://astro.troja.mff.cuni.cz/projects/asteroids3D/web.php> for more details. What is more they have proved to have good agreement with the shapes measured by multi chord occultation methods. See paper at <http://arxiv.org/abs/1104.4227>

New Zealand's Starlight Reserve - A Brief History

The 2002-2003 Mackenzie County Council Tekapo Vision statement included "Maintaining the ability to view the Night Sky." This led to the local people initiating interest in the concept of a park in the Night Sky and to set up a Working Party in collaboration with the Mackenzie Tourism and Development Board. At its annual meeting in Durban in 2005 the World Heritage Committee adopted a resolution to explore an initiative on "Astronomy and World Heritage as a means to promote nominations which recognise and celebrate achievements in Science".

The New Zealand National Commission for UNESCO, the University of Canterbury Astronomers and interests in the Mackenzie District responded to the challenge and began to work on developing a proposal for a Night Sky Park around the Mt John Observatory. Support was received from the RSNZ, RASNZ, UNESCO NZ, the Mackenzie Tourism and Development Trust and subsequently from the NZ Government through The Ministry of Tourism. The Mackenzie group including the University of Canterbury actively participated in the World Heritage Committee meeting in Christchurch in July 2007.

The opportunity was taken to make presentations and to actively promote the potential for a World Heritage Park in the Sky at Lake Tekapo at:

- Two conferences at La Palma in the Canary Islands 2007 and 2009
- The launch of the International Year of Astronomy and the following Symposium – Paris 2009
- The World Heritage Committee meeting in Brasilia 2010 to support the adoption of the Thematic Study on Heritage Sites of Astronomy and Archastronomy in the context of the UNESCO World Heritage Convention. NB New Zealand was one of five invited to submit a Case Study for the Chapter on Windows to the Universe.

•The Chair of the Lake Tekapo Aoraki/Mt Cook Working Party held a two-day workshop in Paris in November 2010 to plan the way ahead.

Since the inception of the project there has been unprecedented local, national and international media interest in the Night Sky project which has resulted in significant increases in the number of visitors to the area.

Conclusions

•New Zealand has an opportunity to recognise the area designated by the Mackenzie District Councils Lighting Ordinances as a Starlight Reserve and a unique destination for tourism, education, culture, scientific research, photography and art.

•The Christchurch International Airport as the Gateway to the South Island would also be the Gateway to the Stars.

•The Mackenzie District Council, the Canterbury Development Corporation, the Canterbury Employers Chamber of Commerce, the Christchurch International Airport, the Department of Conservation, the Royal Society of NZ and the Royal Astronomical Society of NZ have indicated support for the initiative.

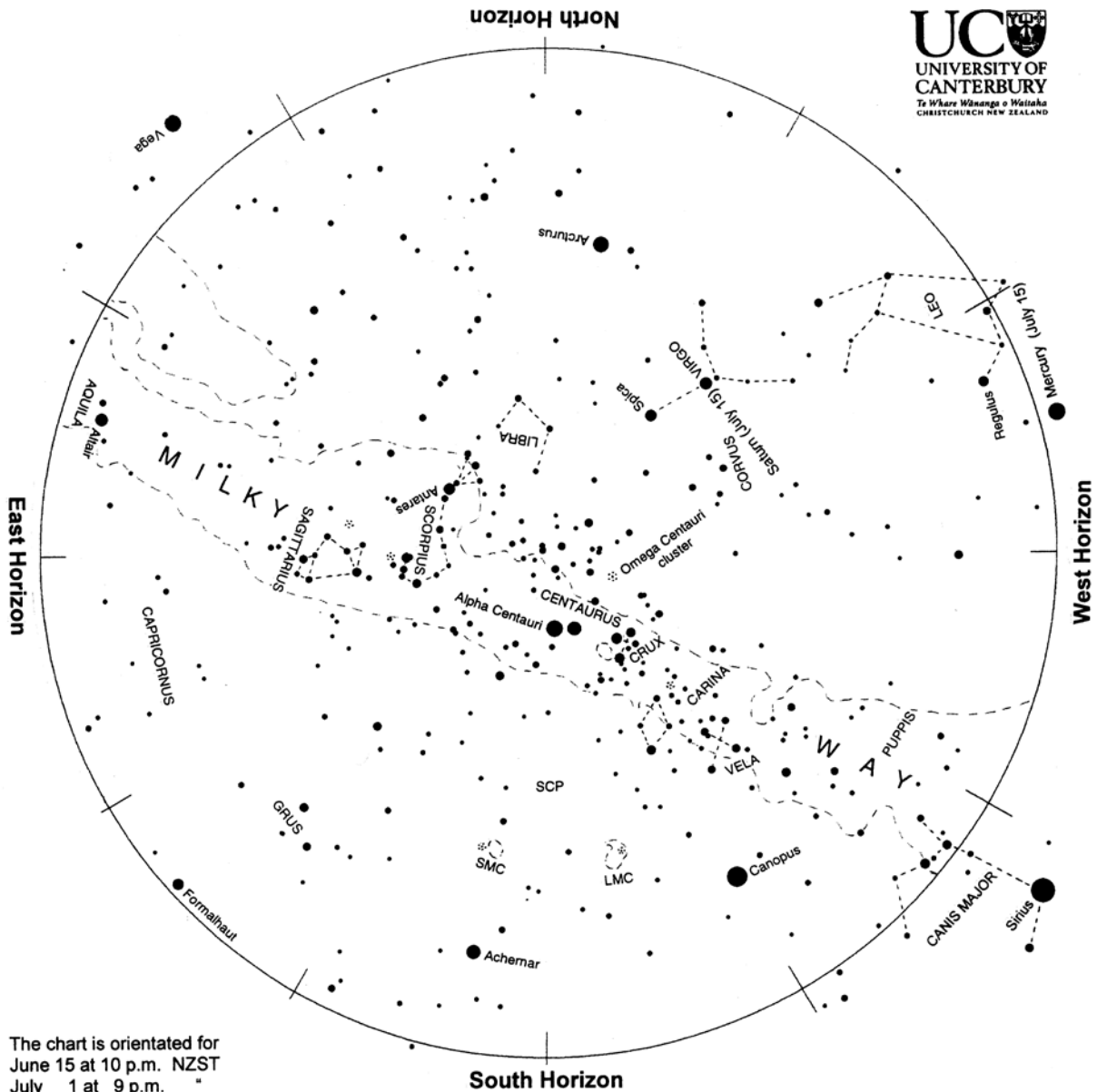
•The Lake Tekapo, Aoraki/Mt Cook Starlight Reserve Working Party believes that a declaration by New Zealand of the Area bounded by the Mackenzie Lighting Ordinances and including Twizel if agreed is an essential step towards eventual international recognition either by the International Dark-Sky Association and/or the World Heritage Committee.

A Third Starlight Workshop will be held at Tekapo in June 2012. For details of this workshop go to: <http://starlight2012.org>

Abridged from article by Margaret Austin

Chair, Lake Tekapo Aoraki/Mt Cook Starlight Reserve Working Party

April 2011



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

Evening sky in July 2011

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 clockwise rotation each night as we orbit the sun.

Sirius, the brightest star, sets in the southwestern twilight. Mercury appears low in the west at dusk. Canopus, the second brightest star, is low in the southwest and swings down to the southern horizon later. The Pointers and Crux, the Southern Cross, are south of the zenith. Orange Arcturus in the north often twinkles red and green. The Scorpion is on its back high up the eastern sky with Sagittarius below it. Saturn is midway up the northwest sky with similar-looking Spica above it. Jupiter (not shown) rises in the northeast after 1 a.m.

Chart produced by Guide 8 software; 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



The Evening Sky in July 2011



Sirius, the brightest star, sets in the southwest in early twilight twinkling like a diamond. Canopus, the second brightest star, is also in the southwest at dusk. It swings south later. Mercury is in the western sky at dusk, setting after 7 pm mid month. South of the zenith are 'The Pointers', Beta and Alpha Centauri. They point to Crux the Southern Cross on their right. Left of the Pointers, along the Milky Way, is orange Antares, the brightest star in Scorpius. Midway up the northern sky is a brighter orange star, Arcturus. Above and left of Arcturus is Saturn with similar-looking Spica above it.

Mercury remains in the western sky all month as it swings out from the far side of the sun and catches us up. It is at its greatest angle from the sun around July 20. Then it is setting around 7:30. Being just one-third the diameter of Earth, Mercury is always small in a telescope. At the beginning of July it looks like a tiny gibbous moon. It is then 170 million km away. By the end of the month it is closer, around 100 million km away, but most of the sunlit side will be turned away from us leaving a tiny crescent. Mercury orbits the sun at one-third our distance so moves much faster than Earth. It laps us every 116 days.

A small telescope will show Saturn's rings and biggest moon Titan about four ring-diameters from the planet. Other smaller moons appear as faint stars closer to Saturn. Saturn is around 1470 million km away in July. Signals from the Cassini spacecraft orbiting Saturn take 80 minutes to reach us.

Alpha Centauri is the third brightest star. It is also the closest of the naked eye stars, 4.3 light years away. And it is a binary star: two sun-like stars orbiting each other in 80 years. A telescope magnifying 50x will split the pair. Beta Centauri, like most of the stars in Crux, is a blue-giant star hundreds of light years* away.

Canopus swings down to the southern skyline before midnight then moves into the southeast sky in the morning hours. Canopus is a truly bright star: 13 000 times the sun's brightness and 300 light years away.

Arcturus, in the north, is the fourth brightest star and the brightest in the northern hemisphere sky. It is 120 times the sun's brightness and 37 light years away. When low in the northwest around midnight Arcturus twinkles red and green.

East of the zenith is the orange star Antares, marking the heart of the Scorpion. The Scorpion's tail, upside down, is stretched out to the right of Antares making the 'fish-hook of Maui' in Maori star lore. Antares is a red giant star: 600 light years away and 19 000 times brighter than the sun. Below Scorpius is 'the teapot' made by the brightest stars of Sagittarius. It is also upside down in our southern hemisphere view.

The Milky Way is brightest and broadest in the east toward Scorpius and Sagittarius. In a dark sky it can be traced up 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 actual centre is hidden by dust clouds in space. A scan along the Milky Way with binoculars

shows many clusters of stars and some glowing gas clouds.

The Large and Small Clouds of Magellan, LMC and SMC, look like two misty patches of light low in the southern sky. They are easily seen by eye on a dark moonless night. They are galaxies like our Milky Way but much smaller. The large cloud is 160 000 light years away; the small one 200 000 light years.

Jupiter (not shown) rises in the eastern sky after 1 a.m. It is the brightest 'star' in the late night sky and shines with a steady golden light. By dawn it is midway up the north sky. Binoculars show the disk of Jupiter and perhaps one or two of its bright moons. A small telescope easily shows all four moons and stripes in Jupiter's clouds. Mars rises in the northwest about 6 a.m. appearing below Aldebaran, a star of similar brightness and orange colour. Brilliant Venus might be glimpsed low in the bright dawn twilight.

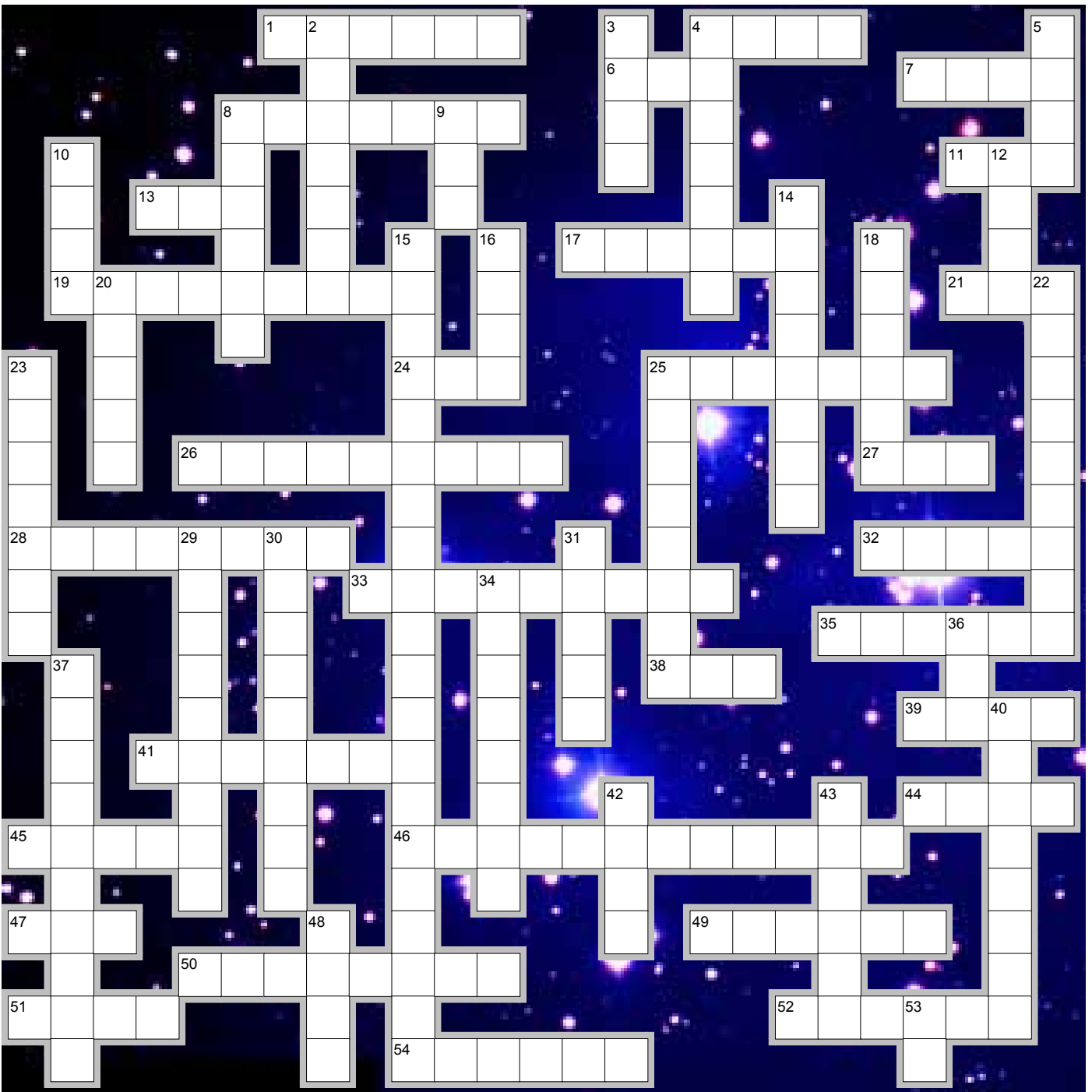
**A light year (l.y.) is the distance that light travels in one year: nearly 10 million million km or 10^{13} km. Sunlight takes eight minutes to get here; moonlight about one second. Sunlight reaches Neptune, the outermost major planet, in four hours. It takes four years to reach the nearest star, Alpha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

Notes by Alan Gilmore,
University of Canterbury's
Mt John Observatory, P.O. Box 56,
Lake Tekapo 7945, New Zealand.
www.canterbury.ac.nz, 110410





Cross Word with Murray Forbes



EclipseCrossword.com

Across

1. Early German astronomer - formulated 3 laws of planetary motion; 4. satellite observatory studying the Sun; 6. frozen liquid; 7. The Peacock constellation; 8. The North Star; 11. some spiral galaxies have one; 13. flying saucer; 17. type of galaxy; 19. Largest galaxy in the Local Group; 21. could be mistaken for a cloud; 24. solid, liquid or ...; 25. type of telescope; 26. A satellite of Uranus, a character in Othello; 27. satellite galaxy to the Milky Way; 28. star time; 32. Constellation with Spica; 33. Mars; 35. a very famous comet; 38. 24 hours; 39. volcano on Io; 41. brightest star in Canis Minor; 44. angels and galaxies both have one; 45. a very cloudy planet; 46. men's concerto (anagram); 47. an orbiting telescope; 49. process that powers stars; 50. road site (anagram); 51. a new star; 52. second most common element; 54. proposed theory of evolution;

Down

2. to block light from another object; 3. New Zealander; 4. type of galaxy with unusually bright nucleus; 5. unit of time; 8. A Moon of Mars; 9. an arrested atom; 10. alpha Lyr; 12. smallest indivisible piece of a element; 14. Once in a ...; 15. LMC; 16. I weight 6 times less on the Moon, but still have the same ???; 18. an open cluster in Taurus; 20. thorn (anagram); 22. study of the large-scale structure and origin of the universe; 23. The winged horse constellation; 25. astronaut; 29. Carter Observatory's public telescope; 30. A NZ astronomy winter weekend getaway; 31. opposite to zenith; 34. The Seven Sisters; 36. A lion circling the Earth; 37. son's recipe (anagram); 40. The SI unit of mass; 42. volcano on Io; 43. A meteor that appears to explode; 48. A serious search for aliens (abbrev); 53. One of the Galilean satellites;