WELLINGTON ASTRONOMICAL SOCIETY

The Orion Nebula Photo © John Field

MONTHLY MEETING: An introduction to Astrophotography with a Digital Camera by John Field
7.30pm Wednesday 4th March 2009
Science House,
Turnbull Street,
Thorndon

MARCH NEWSLETTER

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An introduction to Astrophotography with a Digital Camera by John Field.

Over the last decade the introduction of Digital SLR cameras has revolutionised astrophotography making it easier than before to capture the night sky. Talking from my own experiences I will explore and hopefully explain how to use your camera and software to produce images of the night sky that would have been beyond the scope of amateurs twenty years ago. Topics will include: How DSLR Cameras work, what settings to use, what do you need, how to polar align your mount using a DSLR, taking unguided images using a tripod, piggy-back and prime focus imaging through a using a telescope and image processing using freely available software. I will include both the good, the bad and the ugly images I have taken to give you an idea of what can go wrong and what you get when it all goes right!

WAS Telescope Workshop

On March 7th the Society will be running this special Telescope workshop.

Where: Carter Observatory

Time: Starting a 10am and runs to 2pm

Open to all WAS members only

Cost: This Workshop is **FREE** to members

Coffee & Tea will be supplied

Lunch: We will have a **POT LUCK LUNCH** so bring along some lunch and we will throw it all in together.

Bring along those Old and not so Old Telescopes or Binoculars and we will have the experts on hand to run their expert eye and hands over them and make a few adjustments. We will also be discussing what to look for when purchasing a telescope or binoculars. We will also be discussing how to use telescopes and how to take care of them. We will also discuss what are good Optics and what are not so good Optics. This Workshop will be a Dry Run of what we will be running at Te Papa on May 24th.

John Field has been made a life member of the society.

For his long service to the society and being President for many years.
For the long hours he puts in at the Pauatahanui Observatory.
For the Night Sky events that he always turns up to and runs.
For his regular input into the newsletter.
For the Working Bees that he organises and ran.
Congratulations to John.

John Priestly has been made an Honorary member for 2 years.

John had been a member of the society for 15 years up until 2000 when he shifted to Taranaki to live. John has repaired a couple of the WAS telescopes especially the 12" Meade LX200 from the Pauatahanui Observatory which died before last Dec. John fixed this telescope at no cost to the society where it would have had to go to Aussie to be repaired and that would have cost us about $2000 to repair. John will continue to repair our electronics for us. Thanks John for your service and enjoy the newsletter.

New Website up and running: www.was.org.nz

Thanks to John Talbot for creating the new Website for the society. Well done! John is our Web Master and only he and Chris Mongattii have access to make changes to the website.

Levin Telescope Road Show

On Waitangi Day a few of the WAS members visited Levin for their Roadshow. Gordon Hudson did a presentation about telescopes to a group of about 50 people. All told there was about 100 people turned up with various types of telescopes. See Brenda's article about the Levin Roadshow.

Working Bee at Pauatahanui

John Field and Gordon Hudson had another working bee and tidied up around the observatory and to spray a chemical on the observatory to clean off the Lichen and other unwanted growth.

Wellington City Library Major Event for WAS

On March 23 the Wellington Astronomical Society will be setting up displays in the Library to celebrate the IYA.This display will run right through until the end of the year.

There will be a couple of telescopes on display the WAS Dolland Telescope and Gordon Hudson's 6" Refractor made in NZ in 1930.We will be running regular Solar observing events in the Civic Square starting with the first one on March 21st two days before we actually set up the displays. There will be Video Images running thanks to Paul Moss and Photographs of various objects. We are trying to obtain the Astro Art Images which are currently on display in Invercargill. There will be regular talks at the Library run by various society members. We are still discussing with the Library the details of the displays.

Te Papa Telescope Roadshow for the IYA

On May 24th there will be telescope workshop for the General Public which will be hosted by the Wellington Astronomical Society and this will be for the public to bring there telescopes and have them assessed by the experts. There will also be talks by various experts about the telescopes and a small display of telescopes and poster display. There will be a business IRL will be on hand with a poster display and expert advice.

IYA 100 hours of Astronomy

On April 4th the society will be involved in 100 hours of Astronomy. More details will follow later.

Newsletter

We would like as many people as possible to receive the WAS Newsletter by Email as we are trying so save on printing costs and this will reduce our yearly amount spent on the newsletter considerably. If you would like to receive the newsletter by email please let us know as soon as possible.

Loan Telescope

Ron Fisher the organiser for the Levin Stargazers group has joined the WAS and has on loan the WAS C8 which at one time was housed in the Pauatahanui Observatory. Ron has also on loan from us the Occultation Timing equipment and he is keen to start doing some Minor Planet and Lunar Occultations.

Asset Register

Chris Mongattii and Patrick Sharp will be creating an asset register for WAS over the next few months and we hope to have list of all the Societies equipment and books etc available. This will also include our loan register so that we will know where everything we own is housed.

Earth Hour

On March 28th at 8.30pm till 9.30pm it is hoped that as many lights as possible will be turned off. We will run this as a Public Night Sky observing session and will be held up at the Thomas King Observatory in front of the Old Dominion Observatory by Carter. The aim is to do a star count before the Earth Hour and during the Earth Hour so as to see if the number of lights turned off makes a difference to the number of Stars that we can see.

RASNZ Conference & Symposium

The RASNZ conference will be run by the WAS at the Quality Inn on Cuba Street Wellington on May 22 till 26th. The RASNZ conference will run on the Sat & Sun while a Variable Star symposium will run on the Friday and on the Mon & Tues the Minor Planet & Occultation symposium will run. The cost to attend this event is $80 per day per person.

This will be a most interesting conference in this the IYA 2009.

Island Bay Festival on Valentines Day

On Saturday 14th at Te Raukau Point the society attended the Island Bay Festival where a number of our members attended and brought along their telescopes.
The weather was fine and calm which was just as well as it was a light Southerly blowing.
We had about 6 telescopes there and about 40 people turned up for the event.
After a Maori welcome by Toa Waaka which was followed by a discussion by Harri Mogosanu the telescopes were well attended and many had there first look through a telescope.

A couple of Green Lasers were used to point out the different objects and constellations in the Night Sky. The moon rose at about 11pm and this was a great object to look at especially for first time viewers. Earlier in the evening the only planet on display was Venus and we had a great view through my 8" Russian Catadiaoptic Telescope and you could see the crescent quite clearly even though it was just over the top of the roofs of houses. Saturn the only other planet available to us did not rise until about 11pm by which time we were packing up. Thanks to those members who helped out and helped make it a successful night.

Observing at Pauatahanui

The next observing evening at the Pauatahanui observatory will be on March 21st and in the expert hands of John Field. If you haven't been along to look through the Meade 12" now is your chance to have a look at our Night Sky in a reasonably Dark sky. Remember the Next Public Night Sky event is on the 28th March at the Thomas King Observatory.

Levin Star Party February 6th by Brenda Johnston

For their opening IYA event the Levin Stargazers group hosted a star party at Levin Adventure Park. Since the park has its own hall a talk could be given enabling the event to go ahead regardless of the weather. The theme for the event was a telescope amnesty that gave everyone the opportunity to bring along their own telescopes at a venue where experienced observers could give advice on how to use them.

Gordon Hudson gave a complete overview on the different types of telescopes that an amateur could purchase. He brought along 4 different types of telescopes and explained the advantages and disadvantages and what to look for when purchasing a telescope. He also explained how to use a telescope as most people who purchase telescopes do not know how to use them properly. This talk was followed by a quiz for children. When Roland and I arrived it was still sunny and I regretted not bringing the solar filters for my two telescopes. Luckily Roland had bought his so people could look at a blank sun. At first I had to make do with local trees and landscape features but once the moon was up I could show that to people. Luckily it was a few days past first quarter so was a good sized target to aim at. The talks began about 8pm and finished about 9pm. About 100 people came along and

many of them with their own telescopes. Mostly the lower price range of refractor and I estimated about 30 telescopes were there.

Roland had also bought his first telescope along which was similar to the majority of telescopes bought in. Consequently he were able to give practical advice on how to get the most out of these instruments. It is hoped that participants join up with the local stargazers group and bring their telescopes along to future star parties. As well as the Levin stargazers group we had Ian Cooper from Palmerston North and some members of WAS. As it became dark so the clouds began to roll in. Moon and Venus spotting became real games. Later some larger holes opened up enabling familiar bright sky objects like the Orion nebula, Alpha Centauri, Alpha Crucis and the Jewel Box to be shown to the participants. Sadly it soon clouded in completely so we all packed up our things and went home. The most exasperating aspect was it was beautifully clear at Waitarere Beach and back home in Wellington. Despite the refusal of the weather to cooperate it was a very successful evening and I will definitely take part if another one was held. Thanks to everyone who took part.

Editorial Disclaimer

Views expressed in this newsletter are not necessarily those of the Society as a whole.

What's In the Sky in March: Information Provided by Alan Gilmore

The brightest stars are mostly along a strip from the northwest to overhead and on into the southeast sky. **Orion** and **Taurus** are in the northwest sky. **Sirius** and **Canopus** are northwest and southwest of the zenith, respectively. **Crux**, the Southern Cross, and the Pointers are in the southeast. **Saturn** is off this track, looking like a medium brightness star in the northeast. Brilliant Venus (not shown) might be briefly seen on the northwest horizon soon after sunset in the first ten days of March. After that it passes between the earth and the sun to reappear in the dawn sky.

Sirius is the first star to appear at dusk, northward of overhead. Below and west (left) of it **Rigel** and **Betelgeuse** become visible. They are the brightest stars in **Orion.** Rigel is bluish-white and Betelgeuse orange. Between Rigel and Betelgeuse is a line of three stars making Orion's belt. To southern hemisphere star watchers, the line of three is the bottom of 'The Pot'. Orion's belt points left and down toward the orange star **Aldebaran.** It is at one tip of 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. **Sirius,** 'the Dog Star', marks the head of **Canis Major** the big dog. A group of stars above 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,** below and east of Sirius, marks the other dog following Orion the hunter across the sky. **Rigel** is a supergiant star, 40 000 times brighter than the sun and much hotter. It is 800 light years away. Orange **Betelgeuse** is a red-giant star, cooler than the sun. It makes up for its duller surface by its size: hundreds of times the diameter of the sun. It is 9 000 times brighter than the sun and 400 light years from us.

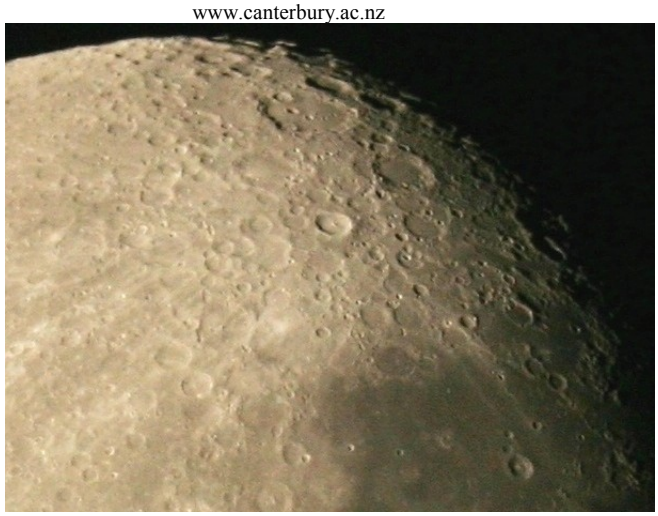
The V-shaped group making the face of **Taurus** the bull is called the Hyades cluster. It is 150 light years away. Orange **Aldebaran,** Arabic for 'the eye of the bull', is not a member of the cluster but merely on the line of sight, midway between us and the Hyades. The **Pleiades**/ **Matariki/** Seven Sisters/ Subaru cluster, impressive in binoculars, is 400 light years from us.**Crux**, the Southern Cross, is in the southeast. Below it are Beta and **Alpha Centauri,** often called 'The Pointers'. Alpha Centauri is the closest naked-eye star, 4.3 light years away. A telescope shows it is a binary star: two suns orbiting each other in 80 years. Beta Centauri and many of the stars in Crux are blue-giants hundreds of light years away. **Canopus** is also very luminous and distant.

The **Milky Way** is brightest in the southeast toward **Scorpius**. It can be traced up the sky, fading where it is nearly overhead. It becomes very faint to the 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 thick hub of the galaxy, 27 000 light years away, is in Sagittarius, below Scorpius in the late night sky. The nearby outer edge is the faint part by Orion. The Milky Way contains many star clusters visible in binoculars. The Clouds of Magellan, **LMC** and **SMC**, are high in the in 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. **Saturn** is in the northeast with fainter **Regulus** to its left.. The rings of Saturn are nearly edge on in 2009. In a telescope they look like a thin line. Saturn is around 1260 million km away.

Jupiter, not shown, rises in the southeast before 4 a.m.; a very bright golden 'star'. Binoculars show it as a small disk. A telescope will reveal its four big moons strung out on either side of the planet. .

*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 090214



The region around Tycho by John Field

This image the region around Tycho was taken the 13th of June 2008 using a Canon 300D and a Meade 8-SCT at prime focus. This image shows the prominent crater Tycho in the upper left of the image. Tycho is one the youngest craters on the Moon and is named after the astronomer Tycho Brahe (1546-1601). It has a diameter of 88km and a height of 4800 meters. The central peak, a rebound feature of impacts is 1500 meters in height. Tycho has a system of brilliant rays that extend across the lunar surface.Above Tycho is the large crater Clavius measuring 231 kilometres in diameter and with sequence of five craters that decrease in size. This crater is named after mathematician and astronomer Christopher Klau (1537 – 1612)
The dark Mare in the lower right is part of Mare Nubium, the Sea of Clouds, with the crater Bullialdus. Named after astronomer Ismael Boulliau (1605-1694) this crater has a diameter of 61 km.

COUNCIL OF THE WELLINGTON ASTRONOMICAL SOCIETY INC.

P.O.Box 3126 Wellington

Website at www.was.org.nz

President	Gordon Hudson	Ph 236 5125	gordon@kpo.org.nz
Vice-President	Roger Butland	Ph 478 0419	roger.j.butland@xtra.co.nz
Secretary	Ross Powell	Ph 389 9765	
Treasurer	Diane Zemanek	Ph 237 8191	diane.zemanek@axon.co.nz
Newsletter Editor	Brenda Johnston	Ph 478-9008	bbajphnston@gmail.com
Committee	Frank Andrews		frank.andrews@paradise.net.nz
	Chris Mongatti	o21 890 222	chrismon@xtra.co.nz
	Patrick Sharp John Talbot	Ph 04 293 4620	shortsharp@paradise.net.nz john.talbot@xtra.co.nz
Positions Outside Council			
Email newsletter	Murray Forbes		murray.forbes@paradise.net.nz
Membership	Lesley Hughes	Ph 472 5086	hpwas@hugpar.gen.nz