

*"First light" for NASA's new Solar Dynamic Observaory*

***NEWSLETTER***  
***May***  
***2010***

# FOXTON BEACH ASTRONOMICAL SOCIETY

## LIST OF OFFICERS 2009 – 2010

<b>President:</b>	Ron Fisher	Ph 368-6251
<b>Vice President:</b>	Bren Chainey	Ph 368-4987
<b>Secretary:</b>	Richard Leach	Ph 367-2075
<b>Treasurer:</b>	Tina Hills	Ph 368-6926
<b>Observatory:</b>	Gordon Dustin	Ph 363-7707
<b>Viewing hotline:</b>		Ph 0211270604

We welcome contributions from any members - observing reports, photos, news, links to interesting websites, just about anything astronomical will be considered. Please have your contributions in by the 21<sup>st</sup> of the month. Address any newsletter contributions to Stephen Chadwick at [stevechads@hotmail.com](mailto:stevechads@hotmail.com) or post to 628 Himatangi Beach Road, RD11 Foxton. We cannot guarantee everything will be included, but we will do our best.

### NEXT MEETING

#### Annual General Meeting

THURSDAY May 6<sup>th</sup> 2010 at 7.30 pm

at the Foxton Beach School staff rooms, Carthew Terrace, Foxton Beach.



Tea, coffee and biscuits are now available at all meetings at a nominal charge of 50c



We are a Registered Charity. All donations over \$5.00 can be used to claim a Tax Deduction.

## President's Annual Report May 2010

I want to start by thanking each and every member for their support this year. It was a great team effort to produce the results we produced throughout the year.

2009 was a big year for astronomy all over the World and we can be very proud of our participation in the year of astronomy activities. The committee have put in a lot of hard work this year and spent many a long nights debating the finer points of what it means to represent the society in the best way possible. After many ups and downs we came to a place where meetings were open and intentional. A clear vision for FBAS emerged, one with a bright future and that is something to celebrate in the present.

Although the refurbishment of the Thomas Cooke is progressing slowly, it is inevitable that it will be up and running like new over the next year. We also have proposals for an entire new dome. This will enable us to provide the service that we have for the last 20 years once again and cater for schools and groups like we use to. Meanwhile membership has grown and the capabilities of our members is stronger than it has been for a while. New members have many opportunities for learning and when our new-old observatory reopens we will be ready for popular public nights once again.

Members have enjoyed a wide range of speakers at our monthly meetings and although our guest speakers were of high calibre and enjoyed by all, I have particularly enjoyed hearing from our very own members talking about topics of their interest.

Some highlights of the year include, the spring fling, belated winter solstice dinner, Galilean Nights at Manawatu College, Space Radio at MAVtech, the xmas dinner, the xmas star, Stardate in Hawkes bay, visits to and from the Hawera Astro Society, tea and biscuits at the monthly meetings! And the anti highlights include the weather and bright street lights. Mike White is to be acknowledged for heading up a team with a fantastic effort of Global Astronomy Month activities to finish up the year.

The name change debate was a heated one and no matter what your opinion was, most people had their say and the people spoke. Foxton Beach is proud of its heritage and location. Shortly after the special meeting we were given a new logo by Haritina Mogosanu of Wellington.

Our monthly newsletter was published by Stephen Chadwick who did a fantastic job with members contributions. Some fantastic astrophotography is displayed alongside other items of interest and reports. We are proud of our publication and will be looking at delivering it to other societies around NZ and possibly schools and other places of interest.

I have stepped down as president this year as was my intention. I feel privileged to have had this opportunity to serve you and to keep the fire going

as best i knew how. I have certainly learnt a lot over the course of the year and have met some great people along the way. I wish FBAS all the best for the upcoming year and 20 more.

Ron Fisher

## **Annual General Meeting**

On May 6<sup>th</sup> 2010 we shall be holding our 20th Annual General Meeting.

A call for nominations for officers of the society was sent out last month and the following is a list of members that have been nominated and seconded:

President: Steve Chadwick

Vice President: Ian Cooper

Secretary: Tina Hills

Treasurer: Simon Hills

Committee Members:  
Brenton Chainey  
Allen Little  
John Honore  
Paul Field  
Richard Leach  
Mike White

Nomination will also be called from the floor on the night.

## Farewell Orion



As Orion disappears from our evening sky we know for sure that the winter months are on their way.

Ian Cooper took this image of “The Pot” on the astrograph at the Sluggish Creek observatory. Many favourites are visible – The Flame Nebula, the Horsehead, NGC1977 and of course The Great Orion Nebula.

Although we say good-bye to them for another season they shall be back soon (we hope...)

## Don't talk to aliens, warns Stephen Hawking

THE aliens are out there and Earth had better watch out, at least according to Stephen Hawking. He has suggested that extraterrestrials are almost certain to exist — but that instead of seeking them out, humanity should be doing all it that can to avoid any contact.

The suggestions come in a new documentary series in which Hawking, one of the world's leading scientists, will set out his latest thinking on some of the universe's greatest mysteries.

Alien life, he will suggest, is almost certain to exist in many other parts of the universe: not just in planets, but perhaps in the centre of stars or even floating in interplanetary space.

Hawking's logic on aliens is, for him, unusually simple. The universe, he points out, has 100 billion galaxies, each containing hundreds of millions of stars. In such a big place, Earth is unlikely to be the only planet where life has evolved.

"To my mathematical brain, the numbers alone make thinking about aliens perfectly rational," he said. "The real challenge is to work out what aliens might actually be like."

The answer, he suggests, is that most of it will be the equivalent of microbes or simple animals — the sort of life that has dominated Earth for most of its history.

One scene in his documentary for the Discovery Channel shows herds of two-legged herbivores browsing on an alien cliff-face where they are picked off by flying, yellow lizard-like predators. Another shows glowing fluorescent aquatic animals forming vast shoals in the oceans thought to underlie the thick ice coating Europa, one of the moons of Jupiter.

Such scenes are speculative, but Hawking uses them to lead on to a serious point: that a few life forms could be intelligent and pose a threat. Hawking believes that contact with such a species could be devastating for humanity.

He suggests that aliens might simply raid Earth for its resources and then move on: "We only have to look at ourselves to see how intelligent life might develop into something we wouldn't want to meet. I imagine they might exist in massive ships, having used up all the resources from their home planet. Such advanced aliens would perhaps become nomads, looking to conquer and colonise whatever planets they can reach."

He concludes that trying to make contact with alien races is "a little too risky". He said: "If aliens ever visit us, I think the outcome would be much as when Christopher Columbus first landed in America, which didn't turn out very well for the Native Americans."

The completion of the documentary marks a triumph for Hawking, now 68, who is paralysed by motor neurone disease and has very limited powers of

communication. The project took him and his producers three years, during which he insisted on rewriting large chunks of the script and checking the filming.

John Smithson, executive producer for Discovery, said: “He wanted to make a programme that was entertaining for a general audience as well as scientific and that’s a tough job, given the complexity of the ideas involved.” Hawking has suggested the possibility of alien life before but his views have been clarified by a series of scientific breakthroughs, such as the discovery, since 1995, of more than 450 planets orbiting distant stars, showing that planets are a common phenomenon.

So far, all the new planets found have been far larger than Earth, but only because the telescopes used to detect them are not sensitive enough to detect Earth-sized bodies at such distances.

Another breakthrough is the discovery that life on Earth has proven able to colonise its most extreme environments. If life can survive and evolve there, scientists reason, then perhaps nowhere is out of bounds. Hawking’s belief in aliens places him in good scientific company. In his recent Wonders of the Solar System BBC series, Professor Brian Cox backed the idea, too, suggesting Mars, Europa and Titan, a moon of Saturn, as likely places to look. Similarly, Lord Rees, the astronomer royal, warned in a lecture earlier this year that aliens might prove to be beyond human understanding. “I suspect there could be life and intelligence out there in forms we can’t conceive,” he said. “Just as a chimpanzee can’t understand quantum theory, it could be there are aspects of reality that are beyond the capacity of our brains.”

*The Sunday Times April 25, 2010*



## Global Astronomy Month 2010 – Telescope Hunt

Sometimes the weather gods smile upon you, and last night (April 10) was one of those evenings when they are not just smiling but grinning from ear to ear! What a fantastic night to kick off GAM for Levin Stargazers and Foxton Beach Astronomical Society, who combined forces to host our first GAM event, the “Telescope Hunt”. Admittedly, not as exciting as the name may suggest, but the idea was for the public to “hunt out” their old telescopes and bring them along for some pointers on how to use them and how to find good stuff in the sky to point them at, with a star party to follow.

As it turned out, only one family in Levin must have a telescope they don't know how to use! In the picture below, you can just see the tripod leg and me showing them how to set it up.



*Assembling a small telescope*

However, about 20 members of the public joined us and the green laser pointers from our club members were soon flashing around the sky as we showed them where some of the best stuff was hiding. The young boy on the left in the photo above (it was his telescope I was assembling) even had a turn with my laser pointer and happily showed his sister and others the Southern

Cross (Crux) and how to find the south celestial pole (SCP) after I had showed him only once!



*Show me the Southern Cross young man*

Following the laser show we had a number of telescopes set up and showed many spectacular objects in our sky – the globular clusters 47 Tucanae and Omega Centauri, Eta Carina nebula, Great Orion nebula (of course!), Mars and Saturn to name a few. The seeing was so steady that even at 240x, Saturn was as steady as a rock and looked spectacular in the eyepiece, much to the delight of many!

All in all it was a great night and everyone thoroughly enjoyed themselves.

Sadly, what was to be our showpiece event, “Worlds’ Largest Star Party II”, later in the month was clouded out on both the Friday and Saturday nights (April 23 and 24), which was a pretty bitter pill to swallow. There had been many weeks of planning go into our activities for Global Astronomy Month, and I would like to personally acknowledge and thank the GAM Subcommittee for their input and efforts – Steve Chadwick, Simon & Tina Hills, Paul Field and Allen Little. Well done everyone.

Worldwide, Global Astronomy Month seems to have been quite successful, admittedly not as successful as last year's 100 Hours of Astronomy, but still a great starting point for becoming an annual worldwide event. Unfortunately New Zealand got in on the act quite late and there seemed to be a general lack of enthusiasm from many other astronomical societies around NZ, which was a little disappointing, but Foxton Beach Astronomical Society should be very proud of their involvement and participation.

Also very active in NZ were the South Canterbury Astronomy Group (SCAG) and, of course, Paul Moss in Wellington. I know there were some other GAM activities around NZ, but they were not registered, so it's impossible to determine how many or how successful they were. In total there were 9 registered NZ events, 3 of those being ours. Worldwide there were 256 registered events in 40 countries (an average of 6.4 per country, so NZ did pretty well really), but again there were many more not registered. You can read about many of the worldwide events (including our telescope hunt) at:

<http://www.astronomerswithoutborders.org/index.php/projects/global-astronomy-month/gam360/members-blog.html>

Next year we will have more lead-time into GAM, so we should be able to host more events and plan for some indoor activities for the evenings when the weather gods conspire against us.

*Mike White*

## **Astro-nonsense**

Q        What is preparation A?

A        It is the name of an over the counter product used to relieve the pain and suffering of asteroids

Space isn't remote at all. It's only an hour's drive away if your car could go straight upwards

What happened to the girl who broke the law of gravity? She got a suspended sentence.

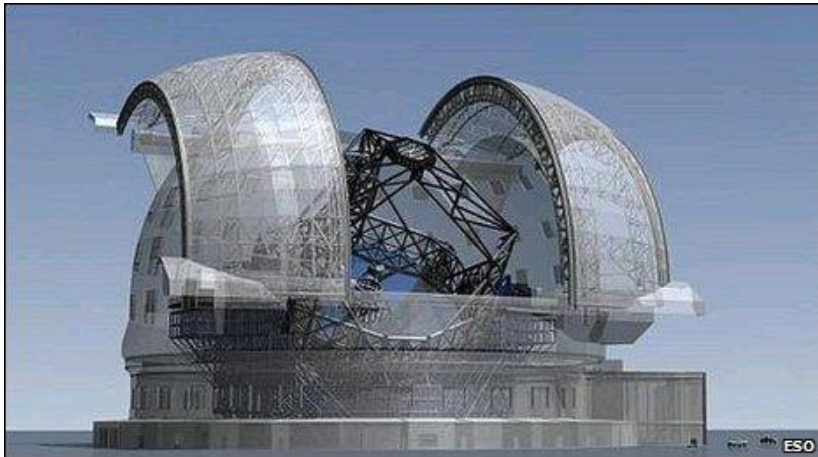
Why didn't the Dog Star laugh at jokes? because it was too Sirius.

## European Extremely Large Telescope

Europe has chosen the place it wants to build the world's biggest optical telescope.

The observatory will be constructed on Cerro Armazones, a 3,000m-high mountain in Chile's Atacama Desert. The E-ELT (European Extremely Large Telescope) will have a primary mirror 42m in diameter. Astronomers say the next-generation observatory will be so powerful it will be able to image directly rocky planets beyond our Solar System. It should also be able to provide major insights into the nature of black holes, galaxy formation, the mysterious "dark matter" that pervades the Universe, and the even more mysterious "dark energy" which appears to be pushing the cosmos apart at an accelerating rate. Final go-ahead for the E-ELT is expected at the end of this year. The European Southern Observatory (Eso) organisation which is managing the project says it hopes the telescope can be operational by 2018.

The estimated cost is in the region of a billion euros. The decision on the E-ELT site was taken by the ESO Council after several years of study at competing locations that included other places in Chile, and in the Canary Islands, Spain.



The E-ELT will detect a large range of wavelengths from the optical to mid-infrared.

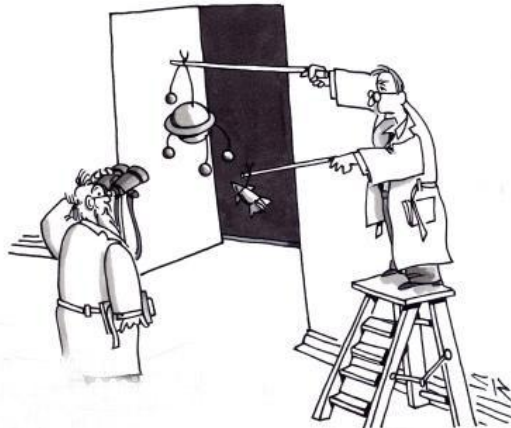
Cerro Armazones is just 20km from Cerro Paranal, where Eso operates its Very Large Telescope facility - a suite of interconnected optical telescopes that includes four units with primary mirrors measuring 8.2m. E-ELT is therefore

about five times the width of today's best optical telescopes (antennas for radio telescopes are still very much bigger). Like Paranal, Armazones will enjoy near-perfect observing conditions - at least 320 nights a year when the sky is cloudless. The Atacama's famous aridity means the amount of water vapour in the atmosphere is very limited, reducing further the perturbation starlight experiences as it passes through the Earth's atmosphere. Coming up with a workable design has been a challenge. It is impossible to make a monolithic mirror on such a scale and so the primary reflecting surface will be composed of 984 hexagonal segments, each 1.45m in size.

The E-ELT will thus be able to gather 15 times more light than the largest optical telescopes operating today. It will also provide images 15 times sharper than those from the Hubble Space Telescope. The huge telescope is one of the major projects listed on a roadmap of research infrastructures that Europe feels it needs to fulfil its scientific goals over the next 20 years.

*(Jonathan.Amos-INTERNET@bbc.co.uk)*

## TOUGH TIMES AT THE PLANETARIUM ...



## Global Astronomy Month 2010 – DVD Evening

On the 16<sup>th</sup> April the club hosted a spectacular DVD evening as part of Global Astronomy Month. The event was held at the Levin Council Chambers. A guest speaker John Talbot from Waikanae began the evening with a fascinating talk on occultations, detailing the scientific importance of recordings even from amateur observations. This was followed by the main event a DVD on Our Solar System, showing planets such as Mars and it's moons, Saturn, Jupiter and our moon. Although the evening attracted only a relatively small number of people, it was still a thoroughly enjoyable event. At the end of the evening a quiz was held for all the children present. The lucky winner was John Murphy who received a book on “Space – The Ultimate Frontier” which was donated by Mike White on behalf of “Total Control”



John Murphy, Simon Hills, Glen Smith, Allen Little, Connor Davenport, Susan Rose. Josh Timms (left to right)

## The View from the Sand Dune Observatory



### NGC4945

NGC4945 shines at mag 9.0. It contains over 1 billion stars and is a member of the Centaurus group of galaxies located about 13 million light-years from Earth.

It is an edge-on spiral galaxy that, in many ways, closely resembles our own Milky Way. However, unlike the Milky Way, this galaxy has a bright centre that is likely to harbour a supermassive black hole.

*(Image by Stephen Chadwick and Brendan Johnstone)*

## Calendar of events

Here is a provisional list of upcoming events:

**May 6th:** Annual General Meeting

**May 15th:** Twentieth Anniversary Meal  
6.30pm, Levin R.S.A

**June 3rd:** Monthly Meeting  
DVD "Einstein's Blunder Undone" by Prof Robert Kirshner

**July 1st:** Monthly Meeting  
TBA

**August 5th:** Monthly Meeting  
"Buiding the Sand Dune Observatory" Steve Chadwick

**STOP PRESS!!!**

**F.B.A.S is 20 years young this May!!  
We are having a celebratory meal**

**Date: 15<sup>th</sup> May 2010**

**Time: 6.30pm**

**Venue: Levin RSA**

If undelivered return to:

Foxton Beach Astronomical Society  
C/- 15 Manchester Street, Levin



Nelson Bartlett Observatory

*(Photo by W Marshall)*

**THE FOXTON BEACH ASTRONOMICAL SOCIETY  
NELSON BARTLETT OBSERVATORY  
FOXTON BEACH SCHOOL STAFF ROOMS  
CARTHEW TERRACE  
FOXTON BEACH**