

ASTRONOMY SECTION REPORT 2012 – 2013 session

The new session of public open nights began on October 19th. Although the Observatory was still a trifle unfinished, it did not prevent visitors from observing Jupiter. However, the weather was not particularly helpful for the first few weeks, except for the Sunday session on November 18th which featured a cloudless sky for Solar observation.

The weather deteriorated further in December, it hardly stopped raining for 3 weeks and produced few clear nights. But when skies did clear, visitors were able to observe Jupiter now at a good altitude just north of Aldebaran and the Hyades and presenting much fine detail in the cloud belts.

A LEGEND PASSES AWAY

On Sunday December 9th 2012 we received the sad news that at the age of 89, Sir Patrick Moore had passed away. Patrick had a long standing association with our Society. During the 1950's, our Observatory was visited by Patrick and the Sky at Night team who tried to image the moon through our telescope. Unfortunately the weather failed to co-operate on that occasion. Patrick returned to our Observatory in 1976 to dedicate our new telescope mount built by Terry Pearce, to the memory of Herbert Stark, who was General Secretary of the Society. The Sky at Night team returned again in October 2011 to interview Doug Daniels on the subject of Mars observations made during the last century and on this occasion the weather did co-operate and we were able to image Jupiter live on television. Unfortunately, Patrick was not well enough to attend on this occasion.

TELESCOPE PROBLEMS

Just before Christmas, the telescope drive packed up. This presented us with a problem as its designer/builder Paul Clements, is now domiciled in the Philippines. However our own Jim Brightwell took up the challenge of diagnosing the fault. Fortunately, we have a copy of the circuit diagram and Jim was soon able to discover that the stepper motor itself was faulty. Paul Clements' drive system was installed in 1992, so it has given very good service but has become troublesome over the last couple of years. Replacement stepper motors are becoming difficult to locate and increasingly expensive. Jim has volunteered to build a simplified version using easily obtainable and inexpensive components. As we will be designing the motor and gearbox from scratch, we will endeavour to arrange for it to be mounted inboard on the telescope mount where it will no longer be vulnerable to accidental damage caused by the telescope hitting it when it is being used close to the eastern side of the pier. In the meantime, Jim has built a stand-by unit using a stepper motor salvaged form an old printer and a gearbox using Mecanno gears to give us a sidereal rate drive which is controllable by the old modified 'Paul Clements' infra red controller.

On Sunday morning January 6th, Jim, Simon and Doug fitted the 'new' drive unit to the telescope – it worked beautifully – Well done Jim! And many thanks for donating it to the Society.

Stargazing Live 3 (SG3)

Following the success of the two previous years programmes, the BBC decided to 'keep the ball rolling' with yet another session of Stargazing Live in January. Due to the fact that we were somewhat overwhelmed by visitors on the two previous sessions, we decided to keep a low profile this year. As it transpired, the weather was again appalling during the session but visitor numbers were still high when we did get a clear night. On February 3rd 2013, 75 visitors arrived and were treated to views of Jupiter and some of the brighter winter sky objects. We had two additional telescopes outside manned by Slim and Simon whilst Kevin (McNulty), wielded the Cooke.

Russian Fireball Feb 15th

11:25 AM GMT. A massive fireball was reported over the Ural Mountains in Russia close to the city of Yekaterinburg. The meteor caused a damaging sonic boom which blew out windows over a large area causing injury to approx. 1,000 people, mostly from falling glass. Images of the event were posted on U Tube.

NEA 2012 DA 14 Close Approach Feb. 15 2013

On 15th of February, Near Earth Asteroid 2012 DA 14 made a close approach to Earth at 19:26 hrs. UT. The asteroid is about 140 metres across and weighs in at about 125,000 Tonnes, and it approached Earth to within a distance of just 35,000 Km. which is far closer than the Moon and is within the orbits of geostationary satellites.

Visually it would have appeared as a $6^{th} - 7^{th}$ magnitude object slowly moving from south to north on a path roughly between Arcturus and Denebola. The best time to identify it would have been at 21: 45 hrs when it passed between Megrez and Alioth in Ursa Major. As the event took place on an open night, we expected a large crowd, hopeful of actually seeing it, but as so often happens with rare events, after a sunny almost spring like day, the skies clouded up shortly after sunset and remained overcast for the entire evening.

FOJ (Friends Of John Hayden) Remembrance Walk & Visit Feb. 24th

Braving a viciously cold day, some 25 former friends of the late John Hayden gathered for a remembrance walk on the Heath on Saturday February 24th, John's birthday. After partaking of lunch in the Spaniards, the group walked to the Observatory, where John had been a demonstrator for some 30 years. Doug & Julia were there to meet them and tell them a little of the history of the Society and the Observatory, after which we all went down to Burgh House for tea and more remembrances of John.

Observing pan-STARRS

Braving freezing temperatures and wintry snow showers, Simon organized a session to observe comet pan-STARRS. Severn hardy souls turned up not expecting to see much in view of the weather.

As the comet is low in the western sky just after sunset, the session took place in the 'old sand pit' field at the end of Judge's Walk, where there is a low western horizon; trees now obscure the western horizon at the Observatory. After a brief snow shower, the sky cleared and the comet was picked up by Jon Culshaw using a pair of Patrick Moore's binoculars

Pan-STARRS has unfortunately not lived up to the early predictions and it was difficult to see in the twilight sky. It was estimated to be about first magnitude, but spread over a diffuse area, it was certainly not a bright naked eye object. The comet appeared as a diffuse shuttle shaped blob with a bright coma and a very faint tail. Attempts were made to photograph it by Simon and Anthony but the results were disappointing. However Doug managed to tease one image of the comet from one of Simon's jpegs.

Ennio Tabone, now living under the darker skies of Dorset, had better luck and managed to get a decent image through his 4-inch refractor on March 31st. He took an exposure of one minute duration at ISO 800 with an anti pollution filter. I did a little mild image processing and posted it on the web-site. I doubt that we will get a better image, certainly not from Hampstead.



Hampstead Scientific Society

A rare clear night on the 7th of April, attracted quite a crowd at both the Observatory and the 'sand pit' site in Judge's Walk, where several instruments were set up to view the comet. Well over 40 visitors just managed to make it out as it has faded considerably. Comet pan-STARRS has not lived up to early predictions and we are left wondering about ISON that is reported as not brightening as it should.

BBC Celebration of the life & work of Sir Patrick Moore May 1st 2013

During April, we were invited by Lord Hall of Birkenhead, the Director General of the BBC, to attend a special reception to celebrate the life and work of the late Sir Patrick Moore on Wednesday 1st May at Broadcasting House. The initial invitation was to Doug & Julia, but Doug managed to obtain tickets for Terry Pearce and Simon Lang, so our Society was well represented. An estimated audience of some 300 people attended. During the celebrations, Jane Fletcher, the last producer of the Sky at Night programme, The Astronomer Royal Martin Rees – Lord Rees of Ludlow, John Culshaw, Pieter Morpurgo, Chris Lintott and Professor Brian Cox spoke at length about Patrick's passion for astronomy and his record of 50 years in broadcasting. Jon Culshaw kept the audience amused by reading some of Patrick's letters to the BBC. Jon's impersonation of Patrick is now so good, that if you closed your eyes you could believe that he was still with us! During the event tributes to Patrick's musical talent was highlighted by two Xylophone performances by Owen Gunnell. After the formal part of the celebration we gathered in the Media Café for refreshments. In all it was a great tribute to a unique personality, thoroughly enjoyed by all who attended.

Extended opening season at the Observatory

Due to the fact that Saturn is now descending into the low declination Summer constellations, we decided to extend our opening season until May 12^{th} . As it is not dark at 8:00 pm, we changed the opening hours to $9:00 \, \text{pm} - 11:00 \, \text{pm}$. This gave visitors the chance to take a last look at Saturn with its rings well displayed before it finally descends to low altitude where it will remain for the next few years.

The Observatory finally closed for this session on May 12th and is scheduled to re-open on September 13th.

Massive donation to the Observatory fund

During mid May, Doug Daniels received a telephone call from a gentleman who had visited our Observatory together with his wife and children. He was so impressed by what he had seen that he told Doug that he was the director of a finance company that made donations to deserving causes and that as we were a registered charity, we might benefit from this scheme. If our application was successful the donation must be described as "an anonymous donation" and it would be in the region of £15,000.

I am delighted to report that we were indeed successful and that we received a cheque for that amount on May 24th.

This is the largest donation ever made to the Society and I have written to thank the donor expressing our gratitude for their great generosity and I am sure that you will also join me in saying a big "Thank You" to our anonymous benefactor. This sum will allow us to purchase some new equipment that has long been on our "wish list".

Observatory on FaceBook

At the beginning of the session the Observatory joined FaceBook. This has enabled us to post 'up to the minute' news about the Observatory's opening status and to post other articles of astronomical interest. It also provides feed back from visitors, much of which is very positive. It also shows that we have a following that greatly exceeds our 'catchment area', some coming from other countries.



Hampstead Scientific Society

We must thank Kevin McNulty for initiating this and for the work that he puts into uploading items of interest and to Simon and all those members of the section who do the same.

And Finally

As usual I would like to thank Simon and our team of Demonstrators & Assistants for their continued support. The Observatory is very important to the Society, greatly appreciated by all visitors and particularly by one anonymous and supremely generous individual. I must also thank Julia for managing the roster and looking after the section's finances which are now once more at a very healthy level.

Doug Daniels.

