Hampstead Scientific Society
Astronomy Section

Annual report 2006/07 session

It is now a firmly established tradition that the Observatory working party takes place on the hottest day of the year. We saw no reason to break with tradition this time and true to form, the date chosen, Sunday June 11th 2006, saw temperatures soar to the 30 deg.C mark!

Picture 1: Messers Pooley and Marriott clearing the path.

After last year's exertions we decided to take things a bit easier this year and confined our activities to general tidying up and repairs.

This year the crew consisted of the Astro. Sec. and assistant Sec. Simon Lang, John Tennant, Jerry Workman, Jim Brightwell, Daniel Pooley and Gary Marriott. This was Gary's final duty as he is off to Canada in the autumn. We thank him for all his past help and wish him luck on his travels. Julia Daniels provided refreshments and after a good few hours in the blazing sun we managed to clear the path and steps of weeds, repaired a hole in the dome covering and replaced one of the broken step lights. The Observatory was swept and dusted and the telescope was given a good clean ready for the new session in September.

The Assistant Astro. Sec., Simon Lang arranged a special 'planet watch' on the evening of Saturday June 17th as Mercury was at its greatest eastern elongation. Additionally, Mars and Saturn were just ¾ of a degree apart, low in the north west. The strip of heath at the end of Judge's Walk at the top of Windmill Hill was chosen as a viewpoint as this location has a good north-western horizon. A few members and about a dozen visitors attended at sunset. Brian Bond brought his portable 150mm refractor, but unfortunately, horizon murk prevented any observation of the elusive Mercury. We did, however, manage to see the Mars/Saturn conjunction and then returned to the observatory to observe Jupiter. The planet's low declination and unsteady atmosphere made observation difficult but the S.E.B was seen to be very broad with much complex detail and a thin belt at the centre of the E.Z.

During early July 2006, Near Earth Object (NEO) 2004 XP14 passed earth at a distance of just 430,000 km. The 400 metre diameter rock moved rapidly through the constellation of Draco, which was almost on the zenith, at about a degree/hour. Its closest approach was on July 3rd, a day on which temperatures had reached 31 C! Hazy sky conditions and a near first quarter moon prevented observation of the 12th magnitude asteroid.

On the morning of August 9th under a cloudless blue sky, I took a look at the Sun at 11.20 B.S.T. with the 150mm Helios refractor. The solar disk was totally blank, not even the smallest sunspot was visible. We must be getting close to or at solar minimum.

No special arrangements were made to observe the annual Perseid Meteor shower this year as maximum, on August 12th , coincided with a nearly full moon. It is no longer feasible to observe such events from the Observatory due to atmospheric and light pollution.

On the 7th of September there was a partial lunar eclipse but it was not favourable from our location. The moon rose at about 18.45 UT with the northern limb just clipped by the Earth's shadow and by the time the moon was just a few degrees above the horizon the umbral phase was over. In any event cloud prevented any observation.

Cloud also prevented any observation of the lunar occultation of the Pleiades on the night of September 12th. Again, this event took place before moonrise from our location and by the time the moon had attained any altitude the event was over, but Terry Pearce reported seeing the tail end of it from the clearer skies of Cambs.

In mid-September we were alerted to a new comet- Comet 2006 M4 (SWAN) due to reach perihelion in late-September. It was predicted to reach mag. 6 in October, when on the 9th , it would be located midway between the star 14 Canum Venaticorum and alpha C.V. (Cor Carolli).

This year we had to delay the resumption of public open nights until the last weekend in September. This was due to shortages of demonstrators. We are sorry to lose the services of Garry Marriott who is 'globe trotting' in Canada and China and Simon Lang had been experiencing a bout of ill health. We hope Garry will return one day and wish Simon a speedy recovery. The first weekend of the session was accompanied by very unsettled showery weather and no observations were made.

Picture 2: The presentation to Terry Pearce 11/10/07.

On the evening of October 11th, members of the astronomy section joined past and present members of Terry Pearce's telescope making class, now

affiliated to the HSS as C.A.T.S (Camden Amateur Telescope-making Society), to present Terry with a certificate and trophy, designed by Simon Lang. The presentation was made by the Astro.Sec. to thank Terry for running the class for a period in excess of 30 years and for teaching and encouraging many amateur astronomers to make their own mirrors and telescopes.

The Observatory received some more publicity this session when the makers of the television programme 'Disappearing London', decided to feature it in the series. The programme was shown on ITV on January 16th 2007. After two abortive attempts to film, cancelled at the last moment due to bad weather, a television crew finally descended on the Observatory on October 16th. The Astro. Sec. was interviewed by their presenter 'Suggs' – the ex lead singer from the pop group 'Madness' to film a short report of the history and activities of the Society and the Observatory.

Poor weather conditions and bright moonlight had prevented observation of Comet 2006 M4 (SWAN) until the evening of November 9th, when the Astro. Sec. managed to find it with 20x80 binoculars at 18.25 hrs. from Finchley. The Comet, positioned just north east of the star 102 Herculis, appeared as a small diffuse patch, looking slightly brighter, estimated at Mag. 6, than the predicted Mag. 9.2. It was later reported that the comet had indeed undergone a flare up increasing to Mag. 4 on one occasion. Terry Pearce, observing from Weston Colville CAMBS. Reported seeing the comet in the early evening of the 18th Nov. It was then close to the star zeta Aquilae and appeared then to be at about Mag.8.

Following a report that there might be a late maximum for the Leonid meteors in the early hours of November 19th, the Assistant Astro. Sec. Simon Lang and a couple of hardy members descended on Paul Clements to observe from a dark location. Early cloud eventually gave way to clearer but misty conditions. John Tennant managed to see about twenty or so meteors, one almost bright enough to be regarded as a fireball, but overall it was not the spectacle hoped for. But with 4 telescopes in use and a limiting magnitude of +6, it presented an opportunity to observe a few of the deep-sky objects now denied to us from light polluted Hampstead. Later on the19th, the sky cleared in London and the Sunday morning session at the observatory was well attended by visitors. There was a fairly prominent sunspot close to the eastern limb and quite a number of solar prominences to be seen through Brian Bond's Coronado H alpha telescope. Solar minimum may now have passed and we could be seeing the beginning of the next Solar Cycle.

There were several clear nights at the Observatory in early December, but not unfortunately on the evening of Wednesday the 13th when the Assistant Astro. Sec. had planned to open the Observatory between 10 pm and midnight to observe the Geminid meteors.

Picture 3: Venus in the western evening sky Jan. 10 2007 (Image by D.G.D.)

Picture 4: Comet McNaught Jan 11 2007 3 secs exposure. Image by Simon Lang.

2007

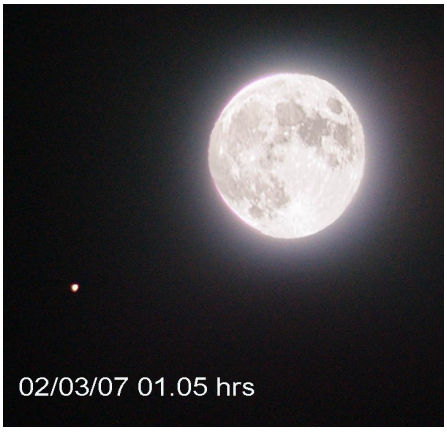
2007 began with news of a new and possibly bright comet; Comet McNaught. The comet (C/2006 P1) was discovered by R.H.McNaught at Siding Spring in August. Its perihelion passage took place in January, within the orbit of Mercury. Early in that month it moved into the evening twilight sky where it was reported at about mag. +3. The Astro. Sec. looked for it in a rare clear sky after sunset on Jan 10th but failed to see it; it was probably below the horizon but Venus was well seen. On Thursday Jan 11, Simon Lang reported seeing and imaging the comet from the roof of a tall building close to his home in Hampstead and Daniel Pooley observed it from Parliament Hill. They described it as having a bright nucleus, about as bright as Jupiter (mag.-2), and a long broad tail extending for at least 5 degrees. It is evident that the comet must have experienced a 'flare-up' as it attained a magnitude far greater than that predicted. It was unfortunate that from this latitude, the comet was only visible for a few days, close to the south-western horizon in a twilight sky. The sudden 'flare-up' caught us all napping. It just goes to show that comets are unpredictable beasts.

On Wednesday 7th February there was a rare conjunction of Mercury and Uranus. With Venus just a few degrees eastward, it promised to be an attractive event. Simon Lang organized a special session on Parliament Hill, which has a less obstructed S.E.horizon. Several members and visitors turned up but the weather let us down again with cloud masking Uranus. However, Venus and Mercury were well seen in the gathering dusk

Amazingly, the occultation of Saturn, in the early hours of the 2nd of March, coincided with a clear night! As the occultation took place at 02.43.1 hrs UT, we did not open the observatory for the event, particularly as we were anticipating a long session just one day later for the total lunar

eclipse.

After a cloudy showery day, on March 3rd, the skies cleared at sunset to allow us to enjoy the full splendour of the total lunar eclipse. Fortunately occurring on a Saturday night and at a reasonable time, the event was enjoyed by over 100 visitors to the observatory. Totality began at 22.44 hrs and lasted until 23.57 hrs. This gave everyone the opportunity to observe it through the several telescopes and large binoculars set up for the occasion. The Astro. Sec. set up his eclipse camera, now digitised and obtained many images of the event. Special thanks to Simon Lang, John Tennant, Daniel Pooley, Jim Brightwell for their assistance on a long session that extended until past 001.00 hrs on the 4th.



Picture 5: Saturn and the advancing Moon 02/03/07 01.50 hrs UT. Olympus digital SLR 150mm f/4.5 telephoto lens. D.G.D.

Once again the Observatory was opened throughout Science Week: 9th-18th of March. The advanced publicity ensured that over 60 visitors turned up for the Sunday morning session on the 11th, a beautiful mild Spring morning. It was unfortunate that the Sun presented us with a totally blank disk – not a single sunspot to be seen but one or two prominences were observed with Brian Bond's H alpha telescope.

Picture 6: The totally eclipsed Moon 03/03/07 (DGD).

The weather co-operated partially during Science Week and visitors were treated to some splendid views of Venus and Saturn. The session on Saturday 17th saw upwards of 50 visitors at the Observatory, but was marred by poor weather, with only occasional glimpses of the ringed planet through thin hazy cloud. The ring system was open to its greatest extent in 2003- 2004 and is now beginning to close up, presenting a very attractive aspect of the planet. The south equatorial belt had a distinct reddish tint which can be seen in Picture 7 taken on 21/04/07 at 22.34hrs. by the Astro. Sec.

Picture 7: Saturn 21/04/07 16.5-inch Cass. 558 frames with TouCam webcam & RegiStax (D.G.D.).

Towards the end of March we were alerted to the close approach of Asteroid 2006 VV2 discovered by the LINEAR

programme in November last year. Its closest approach at 0.0226AU or 8.8 lunar distances, was on March 31st. On March 29th it passed within 25 arcmins. of the galaxies M81 & M82 in Ursa Major at which point it was a 10th magnitude object but unfortunately, as I all too frequently have to report, cloud and rain prevented observation. Observation was further prevented on the following three days due to an almost full moon and dreadful atmospheric pollution. On the 1st of April, in Finchley the limiting magnitude was 2 and on the 2nd it was 1.

We decided to extend the observatory open evenings past the normal mid-April closing date, into early May. This was to give visitors the opportunity to observe Venus and Saturn. Venus was particularly favourable this year, its greatest eastern elongation occurring on June 9th, heading for inferior conjunction on August 18th. We opened over the Easter weekend and were blessed with unusually fine weather but cursed by high levels of atmospheric pollution.

As has now become the custom, the Society participated in the annual Hampstead and Highgate Festival by arranging three late night sessions at the Observatory on the evenings of May 12th, 13th and 17th. Despite continual rainfall during the daytime, the clouds parted briefly on all three nights to provide visitors excellent views of Venus, at a phase close to dichotomy and Saturn, always a favourite subject.

On Sunday May 27th, despite heavy rain, upwards of 30 members attended the visit to the Planetary Imaging Facility at University College, organized by Julia Daniels. Our host, Dr. Peter Grindrod, allowed visitors to explore the many images of Solar System objects, planets, satellites, asteroids, comets etc, many at remarkable resolutions, on file within the facility. He also gave three hour long illustrated presentations to accommodate visitors arriving at staggered times. Our thanks to Julia for arranging this fascinating visit and to Peter Grindrod for giving up his Sunday to entertain us.

Unfortunately, the poor weather over the Spring Bank Holiday weekend prevented the proposed astronomical picnic from taking place. The picnic, arranged by Simon Lang, was to have taken place on the first clear night on either 27th, 28th or 29th of May, to coincide with favourable observation of Mercury, Venus, Saturn, the Moon and later Jupiter. Unfortunately, all three nights suffered from cloud, rain and unseasonable cold winds.

Once again the Astronomy Section has had a very busy and eventful year. To maintain this level of activity requires the participation of many members who give so much of their time to the Society. This year we were sorry to lose the services of two demonstrators and one assistant. Garry Marriott has left the country and John Hayden who has demonstrated for 30 years felt it time to retire as did

Gordon Harding. We thank Garry, John and Gordon for all their help in the past and on your behalf, I thank all members of the section for their continued interest and help.

Doug Daniels

(Astronomy Secretary)