

Cleveland and Darlington Astronomical Society
Minutes of Ordinary Meeting held on Friday, December 10th, 2010 at 1930hrs
in Wynyard Woodland Park Planetarium

Ed Restall, in the Chair in the absence of Barry Hetherington, opened the meeting at 1943hrs (to allow everyone an opportunity to arrive in the dreadful weather conditions). Earlier, some nice views of Jupiter & Uranus had been enjoyed through the Society's 6-inch Dobsonian.

1. Notices

- i) Ed reminded everyone about the Geminid meteor shower and public observing on the night of 13th/14th December.
- ii) Ed also reminded everyone about the Lunar Eclipse on the morning of 21st December and the associated observing taking place at Wynyard Woodland Park for that.
- iii) Ed told us about the forthcoming BBC2 Stargazing Live, with Professor Brian Cox (to be trailed on TV after Christmas), for which the Planetarium & Observatory were a national large-footfall site. Special observing events were being held to coincide with the three TV programmes on 3rd (Quadrantid meteor shower), 4th (partial Solar Eclipse) & 5th January.
- iv) Ed passed on Alex's apologies for the late printing & distribution of *Transit* in December, caused by travel difficulties in the snow.
- v) Ed congratulated Juergen Schmoll on his excellent images of objects from Ursa Major shown on the December edition of *The Sky at Night*.
- vi) Ed finally reminded everyone about the policy and usage of green laser pointers for events at the Planetarium. The CaDAS committee recommends that members do not use these tools, but volunteers registered as laser users at the Planetarium are permitted to use them at observing events, in accordance with the supplied risk assessments and with approval from Stockton Council's Health & Safety section.
- vii) Neil Haggath told everyone about another Brian Cox astronomy-related presentation – The Royal Society Lecture, available on iPlayer.
- viii) Neil also reminded us about February's meeting, which combines the AGM and Members' Night. He would very much like further volunteers to give a short presentation as part of the latter.

Neil then introduced the speaker for the evening, Graham Darke – Chairman of Sunderland Astronomical Society.

2. Lecture for the evening -- "Barringer Meteor Crater (Arizona)"

Graham's visit to Barringer crater sparked his own interest in the science of meteorites and their impacts. He opened with the commonly cited statistic that you're twice as likely to be hit by a meteorite than to win the National Lottery, and proceeded to point out that this was an urban myth, as there is no record of anyone ever having being killed and only two recorded reports in human history of anyone being actually struck by one.

Graham proceeded to give us a potted history of the crater, from it being the first identified impact site on Earth (and the best preserved) and the efforts of Daniel Moreau Barringer to find the impactor as part of a commercial iron-mining enterprise, through to the involvement of Gene Shoemaker in carrying out some of the real science done on the site and its use in the training of Apollo astronauts.

The talk finished with a timeline of impact from 0.1 seconds before the collision to 50,000 years after. It is estimated that the original object was 50m in diameter, travelling at 40,000 mph, the impact exploding with a power of 20 million tonnes of TNT and ejecting 175 million tonnes of rock (most of the meteorite being vaporised) when forming a crater ¼ mile wide and 750 feet deep. This comparatively small impact (there are a lot bigger potential impactors out there!) would have created a fireball out to a radius of 10km, killed all larger animals out to 24km and created hurricane-force winds out to a 40km radius.

3. Questions, vote of thanks and closure of the meeting

Graham took a few questions from the floor and passed around a few meteorite samples, one from Berringer Crater, for people to examine.

The acting Chairman drew the question period to an end, proposed a vote of thanks to Graham for his excellent talk and closed the meeting at about 2030.

EJR (AM & RNC had been unable to attend), 10/01/11