



The Astronomical Society of Edinburgh  
**Journal**

No 59 – March 2009

print: ISSN 1756-5103

web: ISSN 1756-5111

Web version at <http://www.astronomyedinburgh.org/publications/journals/59>

---



*“Don’t you wish  
someone’d bring a  
telescope, so we  
have a closer look  
at the Moon?”  
See Moonwatch in  
North Berwick  
on page 3.  
Photograph by  
Rachel Thomas.*

## Forthcoming events

**Please note!** Meetings are now held at a different venue.

2009-03-13	20:00	<b>Annual General Meeting</b>
	AUC	followed by <b>Meteorites</b> Angus Self, ASE
2009-04-03	20:00	<b>TBD</b>
	AUC	TBD
2009-04-18	10:00	<b>2009 A Space Odyssey</b>
	(1)	From Galileo to Hubble and backyard telescopes
2009-04-18	19:30	<b>2009 A Space Odyssey</b>
	(1)	Grand Galilean Ceilidh
2009-05-01	20:00	<b>TBD</b>
	AUC	TBD
2009-05-02	11:00	<b>Our Wee Planet</b>
	(2)	ASE participation in Scottish Seabird Centre event
2009-05-03	11:00	<b>Our Wee Planet</b>
	(2)	ASE participation in Scottish Seabird Centre event
2009-05-04	11:00	<b>Our Wee Planet</b>
	(2)	ASE participation in Scottish Seabird Centre event
2009-06-05	20:00	<b>TBD</b>
	AUC	TBD

AUC:

Augustine Church Centre,  
41 George IV Bridge, Edinburgh, EH1 1EL.

PLDS:

Dark Site near Pearie Law, 4 km south of West Calder,  
NT 003 579,  $\lambda = -3^{\circ}35'28''$ ,  $\phi = +55^{\circ}48'17''$ .

1. Edinburgh Science Festival, venue: Edinburgh Student Union Debating Hall, Bristo Square. Organised by John Brown, Lorna McCalman and Charlie Gleed.
2. Scottish Seabird Centre, North Berwick.

Our meetings are open to the public, unless otherwise stated. We are always happy to see new faces. Ordinary meetings take place at 20:00 (Civil Time), usually in the Augustine Church Centre on the first Friday of the month. Any changes to our meeting arrangements will be put on our website <http://www.astronomyedinburgh.org>

## Moonwatch in North Berwick

In April 2008, the Seabird Centre in North Berwick contacted the Society about the possibility of holding a joint event at the Centre. In June, David Small along with Ken and Rachel Thomas met with Anna Pugh, their events manager. After a guided tour of the Centre, we discussed what we could do for them and looked at possible dates for the event.

It was agreed that a 'Moonwatch Week' would provide an excellent structure around which we could include a number of events. With the Moon being the focus, there were opportunities for observing as well as possible links with tides and bird migratory behaviour. The week running up to the full Moon in November (6-13) was decided as an ideal time to hold the event. With the Moon rising during the afternoon, there was an opportunity for observing during the late afternoon and early evening when there would still be good numbers of visitors.



We had another meeting in October to sort out the program of events. It was decided at this point that Ken and Rachel would prepare activities for children who attend the Puffin Club at the weekends. They would also organise observing sessions at the weekend together with Monday and Wednesday evenings. David took on the bulk of the task including preparation of material about the Moon which would be displayed throughout the week; training the staff to use the loaned telescopes; deliver a public

talk on the Monday evening. The local Brownies had shown an interest in astronomy, so David also agreed to talk to them on the Monday.

The Moonwatch Week got underway on Thursday 6th November, with David and Anna setting up the displays and the telescopes. There was some staff training on the telescopes so that they could do some observing on the Friday afternoon if they wanted to. As it happened, the weather wasn't willing to allow this on Thursday or Friday – it is Scotland after all!

Saturday was partially cloudy, but sufficiently clear to allow around 30 people to see the (mainly blank) disk of the Sun through the Society's solar telescope. There was a small flare visible, but this was hard to spot. Meanwhile, indoors in the warm, Ken and Rachel were setting up for the Puffin Club. Children are welcome on Saturday and Sunday afternoons to take part in a variety of craft activities. There was a rather messy demonstration of how impact craters were formed on the Moon. A mixture of flour and hot chocolate powder was used for the surface, then a variety of objects (including Maltesers) were dropped onto the surface to see what shape of craters were produced. We had some very nice 'ray' patterns. We also made Moon Landers with marshmallows as well as small card models of the Space Shuttle. A good time was had by all!

Just after 2 pm, Mike Dale and Peter Mulholland from the ASE joined us with a range of telescopes to observe the Moon outside the centre. As it had been a nice day for the beach, there were a lot of people passing and a good number took the opportunity to view the Moon through the telescopes.

Sunday was a similar to Saturday with Ken and Rachel attending the Puffin Club (with a fresh bag of Maltesers) while David stayed at home to write his talk and get prepared for Monday. The weather managed to stay reasonable again allowing a number of people to observe the Moon and Jupiter.

On Monday the 10th of November, David gave a talk to 18 members of North Berwick Brownies. He explained how telescopes work and told them about the City Observatory on Calton Hill and what it was used for in the past. They then had the opportunity to look through some telescopes at Jupiter and the Moon. This was very much appreciated by the girls, as many had never looked through a telescope before.

In the evening, David gave a general talk about the Moon to around 20 people and followed up with a question and answer session. This was to be followed by some observing but, unfortunately, a large amount of cloud moved in and hung around for half an hour before clearing. The members of the ASE stayed around for a while to observe a few items with some of the staff of the Centre.

Another observing session was arranged for the Wednesday and although the weather was fairly poor, we did manage some observing and were able to provide some fleeting views to an appreciative family.

The weather was reasonably kind to us and around 100 members of the public, including a good number of children, had the chance to look through a telescope. We were gratified by the occasional “Oh wow” as many viewed the Moon for the first time. The ASE managed to get 6 volunteers with 7 instruments to North Berwick on multiple occasions for what was a very enjoyable and successful event.

Our thanks go to the Seabird Centre for inviting us to work with them. Particular thanks go to Anna, whose enthusiasm carried the whole project through to a successful conclusion. Thanks also to the staff for making us welcome and helping move equipment. Thanks also to Mike Dale, Horst Meyerdierks, Peter Mulholland and Andrew Mackie for volunteering and attending as many of the sessions as possible.

*David Small, Ken Thomas, Rachel Thomas*

## Observing session at the dark sky site, Addiewell

### The Bad Luck Fairy strikes again

On the 23rd January 2009, a rather iffy weather night, an intrepid few, Danny Gallacher, Horst Meyerdierks, Frank Howie, Peter Mullholland and Michael Dale braved a cold evening at the Addiewell dark sky site. The weather forecast had not been good, cold with rain showers, but we all decided to go along instead of sitting goggle eyed at the TV.

The ‘Dark sky site’ that ASE has the use of is wonderfully dark. This was obvious as we drove in with dipped headlights. We were in for a grand night of star gazing! We all turned up at virtually the same time and started to get wrapped up before getting our telescopes out. The tarmac runways were covered in ice so we decided to set up in the car park. The seeing was reasonably good, with a few patchy clouds but lots of stars visible.

I had brought along the society’s 10” Meade LX200 Schmidt Cassegrain telescope. After nearly suffering a double hernia getting it out of the car (gratefully with help), I started setting it up. When I turned on the drive, it would start OK (you could hear the motor turning and the amp meter showed current flow). The Bad Luck Fairy was waking up! After about 20 seconds the motor would stop, the amp meter still showed it was drawing current. Turning it off and then back on, the motor would start again but then stop after 20 seconds, the amp meter still showing it was drawing current. I tried everything I could think of but could not get it to track at all, I considered kicking it or rolling it down a hill but since it belonged to the Society I thought

“Better not”. So, I concluded – no astrophotography for me tonight!! The Bad Luck Fairy wins round one. Horst thought it may be a repeat of the fault we had when we first got the telescope. The repair at that time was to replace a burned out capacitor.

The rest of the group was busy with their telescopes, binoculars and cameras. However I could hear mutterings from Peter Mullholland. On asking him what was wrong he told me his battery had run low and in replacing it, he had lost the springs washers from the retainer. He eventually got it fixed and was able to continue observing (lucky guy). A close call with the B.L.F.



*Ursa Major before and after image processing. The top-left insert shows Mizar, Alcor and two field stars at about 4 times larger scale.  
Photograph by Frank Howie.*

Frank Howie had not brought a telescope with him but was busy photographing using high ISO settings and short exposures. Frank’s image shows ‘The Plough’, known in North America as ‘The Big Dipper’, as it does resemble a ‘spoon’ ... if you use your imagination! It’s part of the constellation of ‘Ursa Major’, ‘The Great Bear’. Once it’s pointed out, most people would agree that there is an outline resemblance to a ‘spoon’ in this picture, with the handle pointing downwards – though a degree of imagination

is necessary to 'visualise' these 'asterisms', most of which are effectively random patterns of stars, unconnected to each other.

In the centre of the 'handle' of the Plough, there are actually two close stars, Mizar and Alcor. If you look closely at the photograph you can see them both and if you go outside and can see the real thing, this is an indication that you have pretty good eyesight! With a telescope the star Mizar is revealed as being itself a double star! These two stars are, in fact, related to each other. Mizar was the first double star to be discovered, and the first to be photographed.

Frank opined that maybe the Ancient Greeks and other civilizations who named the constellations had better imaginations than us ... but then they probably had more time to just lie back and enjoy the view, rather than having to set up heavy telescopes and other gear in subzero temperatures.

Note that even at this distance from the nearest towns the night sky is far from 'velvety-dark'! The dreaded 'tangerine glow' of sodium lights gets everywhere! In fact, with care it is possible to 'digitally' replace this colour with a more 'natural-looking' dark blue night sky. For comparison purposes, both the original and a photoshop "enhanced" version are shown. Some astronomers would criticise this as unethical. What do you think?

Initially, Horst Meyerderks was observing Messier objects through binoculars. The sky at that time was too patchy to do any astrophotography.

After a couple of hours we retired to the "hut" for a cup of coffee. The B.L.F. was at it again, I couldn't find my bag with flask, sandwiches and biscuits. I phoned my wife to discover I had left it lying in the hall. Fortunately, Horst had plenty of coffee in his flask so I didn't go without. Just then, Peter came in with his "goodies" – a Volcano kettle, water, coffee, sugar and milk. What is a volcano kettle I can hear you ask? I was wondering what it was myself. It looked like a miniature milk churn about 9" in diameter with a conical top which had a central opening on the top and another half way down the cone.

He set it up, first taking the bottom pan off. He then placed a couple of small chunks of fire lighter in the pan, added some screwed up newspaper and replaced the pan on the bottom of the main cylinder. Next some water was poured into the annular water jacket through the offset opening in the conical top. "Ready to go" he said and duly lit a match and set the firelighters ablaze. Within seconds we now knew why it was called a Volcano kettle. Flames belched out of the top central opening accompanied with a roar like a jet engine. Adding a few further pieces screwed up newspaper we had boiling water inside of 5 minutes!! Bubbling hot coffee all round – A truly wonderful gadget.



*Warming up in the hut. Photograph by Frank Howie.*

Eventually Horst and Michael Dale left Peter, Frank and me sitting in the “hut”. Unfortunately the “hut” (and the whole site for that matter) is not blessed with an electricity supply. So, with no light in the hut, we were all sitting with our “head” torches on. Frank decided to take a picture of Peter and me. He wanted to take them without flash to catch the

ectoplasmic effect of our steaming breath (his words, not mine). After a few tries, adjusting camera settings and the angle and position of our head torches he came up with this photograph. You may wish to send in some appropriate captions. We will publish the clean ones in the next Journal.

We soon ran out of stories and jokes, so back out to the cold again. The sky was now lovely and clear, but a bone chilling wind had got up. I swear I could hear some brass monkeys routing around in the darkness looking for their lost nether region appendages but I could have been mistaken. I spent the next couple of hours doing some general observing of Messier objects, Andromeda, Orion, Pleiades etc. I also piggybacked my Canon 400D with an EF 400 mm zoom lens stopped to f/5.6 on the Meade LX200 and tried some short exposures of Orion and the Pleiades. I checked them when I got home but there was slight star trailing on anything over 10 seconds exposure. At any lower exposure time, the stars were too dim. So I was right earlier when I said no astrophotography for me tonight!! Strike 3 to the B.L.F.

Horst was busy with his Canon EOS 400D (plus 135 mm lens stopped to f/4) taking trailed short exposures of the Messier objects he had been viewing earlier with his binoculars. He ran out of objects so he turned to trying to photograph some variables he was interested in. He got RZ Cas measured but found U Ori smeared with another star. He then tried for RT Aur but now the Bad Luck Fairy decided to sprinkle some of her magic dust on him as well – the battery ran out on his camera. That darned fairy kept pouring the bad luck as his camera lens started to dew up.

Just about 11:30 pm we had a light shower of rain but it did not last very long. However, the temperature seemed to be dropping further, making us wonder how the untreated roads would be affected by the shower. The B.L.F. was now on overtime. Midnight was approaching, with the biting wind, the dropping temperatures,

the likely road conditions, notwithstanding the B.L.F. on double time, we decided to pack up and go our separate ways.

I was last to leave the site, so I duly re-chained and padlocked the gate. I had meant to collect the lantern I had left at the side of the track to guide those who had never been to the site before but I had forgotten. When I went to get it, it wasn't there! B.L.F. delivers her final blow! Someone travelling along the road must have spotted it and seeing no visible signs of anyone had "appropriated" it. Perhaps I should have activated the C4 anti-tamper bomb attachment when I left it. It might have done the B.L.F. some good as well.

Notwithstanding the bone chilling wind, the low temperature and the several visitations of you know who, the entire group enjoyed the evening and we all hope to repeat the exercise in the not too distant future. Watch the website or stay awake at the monthly meetings for the announcement. Thanks to Horst Meyerdierks and Frank Howie for their input to the text above. Clear skies!

*Danny Gallacher*

## 2009 A Space Odyssey

Edinburgh Science Festival - IYA event April 18 2009

EDINBURGH STUDENT UNION DEBATING HALL BRISTO SQUARE

I - From Galileo to Hubble and backyard telescopes

**A Series of star-studded lectures** (or – how to become a skywatching addict)

**10.00-17.30 Admission – free**

Participants may attend any part or all of the event, though all day attendance is encouraged. All ages welcome.

### **PROGRAMME**

MORNING

10.00-10.25

Professor John C. Brown (The Astronomer Royal for Scotland)

*Welcome Remarks*

10.25-10.50

Dr Bill Samson (Former Director of Mills Observatory, Dundee)

*Public Astronomy in Scotland*

10.50-11.15

Ms Pauline McRae (Former Chairwoman Highland Astronomical Society)

*The Dark Skies Scotland Project*

11.15-11.40

Dr David Gavine (Former President Astronomical Society of Edinburgh)

*Variable Star Observing*

11.40-12.05

Mr Charles Gleed (Astronomical Society of Edinburgh)

*Robotic Telescopes for All*

12.05-12.30

Mr Philip Perkins (Astrocruise)

*Imaging the Cosmos*

LUNCH BREAK

12.30-14.00

AFTERNOON

14.00-15.00

Dr Chris Lintott (Sky at Night Presenter; University of Oxford; STFC Science in Society Fellow)

*400 Years of Unveiling the Cosmos*

15.00-15.30

Mr John Braithwaite (Clydesdale Astronomical Society)

*Buying, making and using telescopes*

15.30-16.00

Dr Francisco Diego (University College London; STFC Science in Society Fellow)

*Fire in the sky: The magic of solar eclipses and aurorae*

16.00-16.30

Mr Tom Boles (Coddham Observatory, World record holder for supernova discoveries)

*Supernova Hunting and Cosmology*

16.30-17.00

Dr Helen Fraser (University of Strathclyde)

*How to hunt for life in the universe.*

17.00

Professor John C Brown

*Closing discussion*

Followed by

## II - Grand Galilean Ceilidh

**from 19.30, same venue.**

Dance the night away like a Galilean Satellite to the sound of famed band *The Occasionals*. Bar on site. Minimum age 18. Tickets £8 from Ed Sci Fest.

If skies are clear, between dances see Saturn as Galileo saw it. More details will be available mid-February in the Edinburgh Science Festival programme and Website and on <http://www.johncbrown.org>. Email enquiries to <lmccalman@blueyonder.co.uk> or <john@astro.gla.ac.uk>

Organisers: John Brown, Lorna McCalman, Charles Glead

Sponsors: Institute of Physics, Royal Society of Edinburgh

*Adapted from an email sent to members of the Institute of Physics.*

# Astronomical Society of Edinburgh Annual General Meeting

## Annual General Meeting Announcement

The Annual General Meeting of the Astronomical Society of Edinburgh will be held in the studio (downstairs, lift available) of the Augustine Church, George IV Bridge, EH1 1EL, at 8 pm on Friday 13th March 2009. The Agenda will be:

- Apologies
- Adoption of the Minutes of the AGM held on 21st March 2008
- Presentation of the Annual Report and Accounts for the year ended 31st December 2008
- Election of Office Bearers and Council

Nominations for the following have been received:

- President: Horst Meyerdierks

- Vice-Presidents: Iain McEachran, David Small, Rachel Thomas
- Secretary: Graham Rule
- Treasurer: Alan Ellis
- Councillors: Daniel Gallacher, Frank Howie, Iain McEachran, Peter Mullaholland, David Small, Kenneth Thomas, Rachel Thomas

There are no more nominations than vacancies for President, Secretary and Treasurer, and these members will be declared to have been elected. As there are three nominations for Vice-Presidents, an election will be held to fill the two vacancies. Once the two Vice-Presidents have been elected their nominations for Councillor will be discarded and all remaining nominees for Councillor will be declared to have been elected. There will then remain one vacancy for Councillor and the newly elected Council will look to co-opt an interested member.

- AOB

Please note that only members who have paid their subscription for the 2008-09 session are eligible to take part in this meeting.

The meeting will be followed by a presentation by Angus Self on meteorites.

*Graham Rule, Secretary*

## Minutes of Annual General Meeting held on 21st March 2008

### Opening

The meeting was opened by the President, Iain McEachran, at 8:05 pm.

### Apologies

Apologies had been received from Alan Pickup and Graham Clark.

### Minutes of the AGM of 16th March 2007

These, having been circulated, were approved on a motion proposed by Danny Gallacher and seconded by Steuart Campbell.

## Presentation of Annual Report and Accounts

The Annual Report and Accounts from the Council of the Society for the year 2007 had been circulated in advance of the meeting. The Officers of the Society were available to speak to the formal report.

Graham spoke about recent developments regarding the Observatory. He has recently heard from the City Council that work to replace the roofing felt, temporary repairs, on the Observatory roof had been approved and a budget of around £13,000 allocated. Builders have been instructed to start work on this. As some of the felt has now come away and there is some water getting into the Transit Room (fortunately not at the telescope) it is hoped that this will happen as soon as possible.

Work on the Observatory House's £33,000 project is continuing. Although it is running a little late it is expected to be completed by the middle of the year. It has been suggested that it may make a suitable headquarters for the World Heritage Trust and Graham suggested that they might make a very suitable neighbour for the Society.

The Society are contacted from time to time about the state of the Time Ball on the Nelson Monument and this has historical connection with the Observatory. A full survey of the mechanism has been carried out and plans put in place for it to be restored. Unfortunately it has recently become apparent that further work on the tower itself will be needed.

The World Heritage Trust have pledged some money towards the preparation of the Management Plan for the Calton Hill. The City are currently in the process of approaching another trust for further funds. The World Heritage Trust have also supported an AHRB PhD Studentship at the University of Edinburgh in the architectural history of the Calton Hill Buildings.

Overall, Graham was up-beat about the situation as it seems that, in addition to the moral support of the City Council, there finally seems to be some money coming available.

Steuart Campbell asked about the financial position of the Society as it appeared that we were running with a £1800 annual deficit. Alan Ellis responded that we were not currently demanding the interest payments on the funds in the Trust to which we are entitled. This was because the Trust is currently getting a better interest rate than the Society. Overall the situation is roughly level. However we have had a decline in income because we can no longer host local Radio Groups in the small domes which have been vandalised. Additionally, quite a few subscriptions had not been received by the end of the financial year. Many of these have since been paid.

Steuart asked whether it was time we should be introducing economies in the Society. It was suggested that, instead, we should be trying to get new members. This seems to be a difficult problem in most societies nowadays.

Ray Fenouhlet asked about the Society's expenditure as he was concerned that the amount we spent on insurance seemed rather high. The Officers explained that the Society does actually have quite a lot of valuable equipment and that we also had Public Liability cover. Utilities were the next highest cost. Alan reported that we had signed up to a lower rate with Scottish Power in return for staying with them for a certain period. When that period expires the Council will examine the possibility of switching to a cheaper provider. After utilities, we have communication costs. Steuart asked about these and was concerned that we seemed to spend a great deal on printing the Journal. Iain noted that we had now purchased a printer in order to reduce ongoing costs. Steuart questioned the wisdom of this as we were also suggesting to members that they forgo the printed copy in preference for an online one. It was noted that the printer was available for other printing needs of the Society - such as occasional leaflets.

### Election of Officers and Council for 2008-2009 session

The following nominations had been received:

- **President:**  
Iain McEachran
- **Vice-Presidents:**  
Daniel Gallacher, Kenneth Thomas
- **Secretary:**  
Graham Rule
- **Treasurer:**  
Alan Ellis
- **Councillors:**  
Des Loughney, Horst Meyerderks, David Small

These members were declared to have been elected unopposed.

Three Council Members who were stepping down at the end of their term of office: Pete MacDonald, Maurice Frank and Adelaide Webster. The AGM thanked them for their service to the Society.

There are three vacancies on the Council and the newly elected Council will look to co-opt interested members.

### AOB

There being no further business the President closed the AGM and gave his Presidential Address, "We are stardust".

# Astronomical Society of Edinburgh Annual Report for 2008

## Constitution and Management of the Society

The Astronomical Society of Edinburgh is registered Scottish charity SC022968.

The Society's principal address is

c/o Graham Rule  
Secretary of the Astronomical Society of Edinburgh  
105/19 Causewayside  
Edinburgh, EH9 1QG  
Telephone 0131 667 0647

## Constitution

The Society is an unincorporated association founded (as the Edinburgh Astronomical Association) in 1924 and is governed by a Constitution most recently modified on 13th January 1995. A copy of this Constitution has been supplied to each member and may be referred to on the Society's web site.

Clause 1 of that Constitution is:

The name of the Society shall be "The Astronomical Society of Edinburgh" and its objects shall be to advance the education of the public about the science of Astronomy and to promote astronomical research chiefly in Edinburgh and its neighbourhood. In furtherance thereof:

- (a) to circulate information on astronomical matters by the publication of articles, books etc.;
- (b) to encourage astronomical study and observation; and
- (c) to increase popular interest in astronomy.

## Council

The Management of the Society is vested in a Council, elected from the Ordinary Membership of the Society at the Annual General Meeting. The Society's Council at the date of this report comprises:

- President: Iain McEachran FRAS  
38 Dougliehill Place, Port Glasgow, PA14 5DH  
Telephone: 01475 713495  
Email: iain.mceachran@ntlworld.com
- Secretary: Graham Rule FRAS  
105/19 Causewayside, Edinburgh EH9 1QG  
Telephone: 0131 667 0647  
Email: graham@grahamrule.net
- Treasurer: Alan Ellis FRAS  
10 Greenbank Gdns, Edinburgh, EH10 5SL  
Telephone: 0131 447 9968  
E-Mail: alan.ellis@blueyonder.co.uk
- Vice-Presidents:  
Daniel Gallacher, Kenneth Thomas
- Councillors:  
Frank Howie, Des Loughney, Horst Meyerdierks, Peter Mulholland, David Small, Rachel Thomas

The following Council members held office during the early part of the year covered by this report (from 1st January to March 31st): Iain McEachran, Daniel Gallacher, Kenneth Thomas, Graham Rule, Alan Ellis, Maurice Frank, Des Loughney, Pete MacDonald, David Small, Adelaide Webster

The Council of the Society met on 29th February, 2nd May, and 14th November.

### The Astronomical Society of Edinburgh Trustees

A former Vice-President of the Society, Mr John Henry Lorimer RSA left a substantial bequest to the Society when he died in 1936. This bequest has been assigned to "The Astronomical Society of Edinburgh Trustees" and is managed by them under conditions set forth in a Deed of Trust granted in favour of Rev Dr James Patrick DD BSc and others, dated 10th December 1937.

The following are the trustees in terms of that deed:

- Mr Alan Pickup FRAS (Secretary and Treasurer)
- Mr Raymond Fenoulhet
- Dr David Gavine FRAS
- Mr Jim Nisbet
- Dr John Rostron

All of the above trustees are past presidents and members of the Society.

Astronomical Society Of Edinburgh Trust is registered Scottish Charity SC013921.

## Activities during 2008

The Society continues to hold meetings throughout the year with educational talks on different aspects of astronomy. The Council wishes to thank Alan Pickup for kindly presenting the “Monthly Sky Map” talk to the Society whenever he was available. Thanks also go to Dave Gavine for arranging speakers for many of the meetings.

Practical observing has always been encouraged by the Society with some members contributing to nationally coordinated observing programmes (through the British Astronomical Association), some producing interesting images to show at our meetings and others supporting public observing for members and visitors alike at the Calton Hill.

### Membership

On the 31st December 2008 the membership of the Society was 70 of which 6 are honorary members.

Honorary members are Dr H. Ford MBE, Dr D. Gavine, Dr N. Grubb, and Prof D. Heggie. The Honorary Presidents are Prof Andy Lawrence BSc PhD FRAS FRSE (Regius Professor of Astronomy at the University of Edinburgh) and Prof John Brown BSc PhD DSc FRSE FRAS (Astronomer Royal for Scotland).

The Council is sorry to record that Dr M. Brück, one of our Honorary members, died in December 2008.

### Meetings

January	11th	John Braithwaite <i>Adventures of a Telescope Maker</i>
	14th	Observing Group
February	1st	Dr David Kerridge – British Geological Survey <i>The Earth’s Magnetic Field</i>
	4th	Observing Group
March	7th	Prof Andrew Collier Cameron – St Andrews <i>The Search for Extra Solar Planets</i>
	10th	Observing Group
	21st	Annual General Meeting

April	4th	Russell Eberst <i>Satellite tracking and other things</i>
	7th	Observing Group
May	2nd	Ken Kennedy – Dundee AS <i>The lunar maria</i>
	6th	Dr Horst Meyerdierks <i>Digital Image Processing</i>
July	4th	Karen Moran – Librarian, ROE <i>Crawford Collection</i>
August	1st	Members' Night Short presentations by members of the Society
	5th	Gerry Taylor – ASE <i>Twenty Bright Stars</i>
September	27th	Doors Open Day Playfair Building on Calton Hill
	27th	Scottish Astronomers Group Observing session at the ASE Dark Site
	3rd	Des Loughney – Past President, ASE <i>The total solar eclipse of 2008</i>
October	7th	Ken Thomas – ASE <i>John Goodricke</i>
November	5th	Dave Gavine – Past President, ASE <i>The Astronomy of Sundials</i>

## Publications

Editions 55, 56, 57 and 58 of the Society's Journal were published in 2008 under the editorship Horst Meyerdierks.

The Council expresses its thanks to Horst not only for editing, but also for all his work in producing, distributing and to some extent, writing, the Journal. Members are encouraged to obtain their copy of the Journal from the Society's website, but paper copies are also available to members who prefer these. Paper copies are also sent to the Legal Deposit Libraries.

International Standard Serial Numbers have been issued for both online and paper versions of the Journal:

- web: ISSN 1756-5111

- print: ISSN 1756-5103

The online version is available to the public.

Members are issued with the latest edition of the Federation of Astronomical Societies “Astrocalendar” on payment of their subscription to the Society.

## Electronic Communication

The Society’s website may be found at <http://www.astronomyedinburgh.org/>

Email contact addresses have also been set up for some Society Officers:

- [president@astronomyedinburgh.org](mailto:president@astronomyedinburgh.org)
- [secretary@astronomyedinburgh.org](mailto:secretary@astronomyedinburgh.org)
- [treasurer@astronomyedinburgh.org](mailto:treasurer@astronomyedinburgh.org)

Full details of the Society’s activities and information about how to join are on the website.

The Council expresses its thanks to the Royal Observatory Edinburgh for continuing to provide web space and email forwarding.

## The Observatory

In 1938 the Society was granted a lease, rent free, on the City Observatory at the Calton Hill. Non-domestic rates attract an automatic 80 % reduction because of the Society’s charitable status and recently we have benefited from a discretionary 20 % relief. The Society thanks the City for allowing us use of the observatory free of charge.

A significant proportion of the effort of the Society’s Council went into managing the Observatory. This was justified by the unique features of a number of listed buildings, with historical telescopes, in a city centre location. We have had a comfortable base for our activities – as a meeting place, housing our library and equipment, and as a site for public observing sessions.

In 2007 we reported the restriction imposed on the Society’s activities when part of the ceiling in the Playfair Building collapsed in 2006.

Last year we reported that there had been a theft of lead from the roof of the Playfair Building in February 2007. Although this was patched promptly the temporary repair was insufficient to prevent water leaking into the library and the transit room. The lead was replaced in 2008 but further thefts caused even more damage and by the end of the year most of the building was unusable.

Theft of metal from the City Dome roof caused two late night alarm call-outs and we had to pay for temporary repairs in order to secure our property. The Tweedie Dome was completely destroyed when the copper from the roof was stripped off. The Crawford Dome and the Cox Dome have been boarded up for some time. The workshop was broken into and it appears that there had been an attempt to start a fire.

We were able to report last year that the water supply to the site was once again operational and that there was a toilet available. Unfortunately vandals have since destroyed the fittings and the toilet block has been added to the list of boarded up buildings at the Observatory. The City Council indicated that they did not intend to fix the toilet but that new facilities would be included in plans to upgrade the City Dome and the Playfair Building. This would be some years away.

The Society's Council decided in January 2009 that the Observatory was no longer a suitable venue for our monthly meetings and that we would cease to occupy the Observatory.

The Council takes the view that this break with the past will allow us to revitalise the Society. Meeting in more comfortable surroundings near public transport should allow us to recruit and retain members who may have been reluctant to venture up the Calton Hill at night to a sometimes cold lecture room with no toilets nearby. We will also feel less reluctant to ask prestigious speakers to address our meetings and hope to see increased attendance from a wider range of age groups.

We will see a shift in how our finances are used with reduced utility bills but new costs for room hire. While some of the property we have accumulated at the Observatory over the past 70 years can be disposed of we have some instruments and books which will have to be stored.

## Observing

An arrangement has been made with a local organisation which allows our members use of a Dark Skies site. Members are being required to pay a deposit for keys to this site and we look forward to seeing the results of observing done there.

The Council is also investigating how we can provide public observing and outreach sessions especially for the International Year of Astronomy 2009.

## Financial Report

Although we incurred a deficit of £1,695.52 on our income and expenditure statement, this is not as bad as it would at first sight seem. The ASE Trust pays the Society

the interest earned on investments held by the Trust. As the Society receives only a very nominal interest rate on its own bank accounts it was felt to be more prudent to defer receipt of this sum from the Trust so that the Trust could continue to invest it at higher interest rates. To date the amount of deferred income due to the Society is of the order of £6,000. Over the four-year period from the end of 2004 to end of 2008 this would mean the Society's total monetary reserves would have remained fairly constant at £10k to £11k.

Also relating to bank interest rates, we have the bizarre situation where the Business Investment savings account yields much less interest (0.1 % prior to the downturn) than the Current Account. Hence most of the funds were transferred from the Business Investment account to the Current account during the year. It is planned to eventually close the Business Investment Account with the Bank of Scotland and just keep a Treasurer's current account.

Membership subscriptions are up this year £1,237 compared to last year £777. Much of this accounted for by the fact that many members paid their subscription late last year resulting in much of the 2007 subscriptions appearing in the 2008 Financial year.

As very little use was made of the landline telephone service at the Observatory a decision was taken to cancel it towards the end of 2008. As can be seen this year's annual phone bill was £256 which is a lot of money for a very under-used service. It's primary use was for the answer-phone service for public announcements of events at the Observatory should anyone happen to dial the Observatory's published number. This has now been largely superseded by announcements via the Society's Web pages and through the published contact numbers of Officers of the Society's Council.

In presenting the Income and Expenditure statement it was considered useful to split the expenditure into costs associated with the Society and those directly relating to the Observatory and as can be seen this amounts to £1,459 and £1,792 respectively. Although the Insurance costs associated with being at the Observatory are high £657 the Society will still need a degree of insurance for many of its assets as well as third party public liability insurance. Public Liability insurance from the Federation of Astronomical Societies is currently being offered at £40 per annum. It is expected that the contents insurance for storage of valuable assets belonging to the Society can be reassessed and a significantly better deal arranged.

The cost to the Society of emergency temporary reinstatement repair due to vandalism damage to the emergency exit of the City Dome was £327.

The computer projector power supply failed towards the end of 2008. Rather than pay a costly repair bill a replacement projector was purchased for £399.

## Statement of Balances for the year ended 31 December 2008

	2008	Notes	2007
Bank Balances at start of year			
Current Account	£ 1,366.31		£ 3,297.44
Business Investment Account	£ 5,472.94		£ 5,443.68
<b>Total Balance</b>	<b>£ 6,839.25</b>		<b>£ 8,741.12</b>
Less Liabilities for previous year	£ 57.00	1	£ 17.50
Plus Receipts	£ 1,556.36		£ 1,327.64
Less Payments	£ 3,251.88		£ 3,212.01
	<b>£ 5,086.73</b>		<b>£ 6,839.25</b>
Bank Balances at end of year			
Current Account	£ 5,009.52		£ 1,366.31
Business Investment Account	£ 77.21		£ 5,472.94
<b>Total Balance</b>	<b>£ 5,086.73</b>		<b>£ 6,839.25</b>

## Income and Expenditure Report for year ended 31 December 2008

	2008	Notes	2007
Income			
ASE Annual Subs	£ 1,237.00	2	£ 777.00
Dark sky site key deposit	–		£ 20.00
Donations	£ 141.00	3	£ 322.00
Gift Aid	£ 145.69		£ 145.54
Bank Interest	£ 32.67	4	£ 63.10
<b>Total Income</b>	<b>£ 1,556.36</b>		<b>£ 1,327.64</b>

Expenditure	2008	Notes	2007
Meeting Expenses	£428.70	5	£730.27
Travel Expenses	–		£25.75
Library	–		£9.99
Magazines & Subscription	£165.92	6	£104.50
Memberships & Affiliations	£57.00	7	–
Communications	£96.14	8	£419.85
Dark Sky Site	–		£140.00
Equipment	£562.68	9	£113.63
Astrocalendars	£149.35		£170.67
<b>Total Society Expenditure</b>	<b>£1,459.79</b>		<b>£1,714.66</b>
Electricity	£498.13		£479.79
Gas	£10.57		–
Phone	£256.41		£216.90
Insurance	£657.40	10	£634.48
Observatory travel expenses	£41.75	11	–
Observatory sundries	–		£116.95
Observatory repairs	£327.83	12	£49.23
<b>Total Observatory Expenditure</b>	<b>£1,792.09</b>		<b>£1,497.35</b>
<b>Total Expenditure</b>	<b>£3,251.88</b>		<b>£3,212.01</b>
<b>Income – Expenditure</b>	<b>–£1,695.52</b>		<b>–£1,884.37</b>

## Note on Statement of Balances and Income and Expenditure Report

- All funds are unrestricted, i.e. available for any of the Society's purposes.
- No remuneration was paid to any trustee (Council member) of the Society, nor to any person connected to a trustee of the Society.
- The total amount of expenses paid to the 11 trustees (Council members) was £1,246.69. This money was paid to trustees by the Treasurer on presentation of receipts for costs incurred on Society business.
- The Council had agreed in November 2007 to purchase a second-hand laser printer (cf. general note 9 below) from Graham Rule, Secretary of the Society, for £80. The printer was unused and about 4 years old.
- Other than shown in note 9 below no fixed assets or investments were sold or purchased.

At the 31st December 2008 there were no outstanding uncleared cheques that will cause a deferred liability to the next Financial Year.

### General Notes:

1. The 2007 Liability of £57.00 represents cheque payments made during 2007 but not cleared until 2008.
2. Annual subscription payments are better than 2007 plus the late payments from 2007 have increased the 2008 total income.
3. The donations for 2008 amount to £115 for the Playfair Building donations box. The remainder was from kind donations from members of the Society.
4. Interest from Current account £27.37 and Investment account £5.30.
5. Meeting expenses – Speakers' Hospitality £414 and Travel £19.
6. BBC Sky at Night Magazine, Sky and Telescope, Astronomy Now and Practical Astronomer Magazine.
7. Federation of Astronomical Societies annual membership.
8. Paper and postage costs for the year including printed journal and Astrocalendar distribution.
9. Computer projector £399, Samsung second-hand laser printer £80, Diagonal and eyepiece holder for Meade £47, Power-cable, RCD and magazine boxes £34.
10. Insurance – General Contents £6,498. and specified items of individual equipment ranging from £1,695 to £3,264. Also included is £5million public liability insurance.
11. Observatory Travel Expenses associated with overnight emergency callouts due to break-ins or false alarms.
12. Emergency temporary repairs to roof of the Emergency Exit of the City Dome – two instances £186 and £141.

The annual report presented on pages 1 to 10 – including the financial statements on pages 6 to 10 – was approved by the Council of the Astronomical Society of Edinburgh on 27 February 2009.

*Horst Meyerdierks, Councillor  
For and on behalf of the Council of  
the Astronomical Society of Edinburgh*

## Independent examiner's report to the Council of The Astronomical Society of Edinburgh

I report on the financial statements of the charity for the year ended 31 December 2008 which are set out on pages 6 to 10.

### Respective responsibilities of trustees and examiner

The Council is responsible for the preparation of the financial statements in accordance with the terms of the Charities and Trustee Investment (Scotland) Act 2005 and the Charities Accounts (Scotland) Regulations 2006. The Council considers that the audit requirement of Regulation 10(1) (a) to (c) of the Accounts Regulations does not apply. It is my responsibility to examine the financial statements as required under section 44(1) (c) of the Act and to state whether particular matters have come to my attention.

### Basis of independent examiner's report

My examination is carried out in accordance with Regulation 11 of the Charities Accounts (Scotland) Regulations 2006. An examination includes a review of the accounting records kept by the charity and a comparison of the financial statements with those records. It also includes consideration of any unusual items or disclosures in the financial statements, and seeks explanations from the Council concerning any such matters. The procedures undertaken do not provide all the evidence that would be required in an audit, and consequently I do not express an audit opinion on the view given by the financial statements.

## Independent examiner's statement

In the course of my examination, no matter has come to my attention:

1. which gives me reasonable cause to believe that in any material respect the requirements:
  - to keep accounting records in accordance with Section 44(1) (a) of the 2005 Act and Regulation 4 of the 2006 Accounts Regulations; and
  - to prepare accounts with accord with the accounting records and comply with Regulation 8 of the 2006 Accounts Regulations;have not been met, or
2. to which, in my opinion, attention should be drawn in order to enable a proper understanding of the financial statements to be reached.

**Mr. Adrian C. Townsend, CA**

**2 March 2009**

87 Morningside Drive  
Edinburgh  
EH10 5NJ

## Society news

At most ordinary meetings Alan Pickup gives a presentation about the sky in the forthcoming month, usually including snippets of recent news in the fields of observational astronomy and spaceflight.

An entertaining talk was given at the ordinary meeting on 2008-12-05 by Dave Gavine. Supported by 35 mm slides, overhead transparencies and 3D models, Dave explained how sundials work and showed many examples of sundials, mostly from central Scotland. At the meeting on 2009-01-09 members discussed the future for the Society and the venue for meetings. There was near unanimity that we should from now on hold our meetings elsewhere than the City Observatory. 2009-02-06 saw our first meeting at the new venue on George IV Bridge. The main speaker was Graham Rule on the history of our Society. This was preceded by a short presentation by Ken Thomas on the International Year of Astronomy.

**Mrs Mary Brück**

In December we received the sad news that Mary Brück died after a brief illness. Dr Brück was an Honorary Member of the Society and in 2001 received the Lorimer Medal.

## Closure of the City Observatory

The Council of the Astronomical Society of Edinburgh reluctantly has decided that the Society will not hold meetings at the City Observatory for the foreseeable future. The Society is no longer in a position to organise visits or use of the telescope.

The Society has had the use of the Observatory since 1938 and has met regularly at the Calton Hill since 1953. Unfortunately, in the last couple of years vandalism has caused so much damage to the buildings and fittings that we have had to recognise that the site is no longer usable. The main building has suffered severe water damage following multiple thefts of roofing material. The toilet fittings have been completely destroyed by vandals.

It is with great reluctance that the Council of the Society took the decision to move our meetings and to remove all our property. We hope that the City of Edinburgh Council will manage to restore the site to something approaching its earlier glory when it was quite rightly awarded listed status and that the Society may, some day, have renewed access to what was once one of the country's premier civic observatories.

The Society will continue to meet monthly in central Edinburgh and will provide opportunities for the public to see astronomical phenomena with telescopes. Full details of our activities will appear on the Society website.

## Lorimer trustees

The Lorimer trustees fulfil an important role in that they hold in trust for the Society a considerable fund that originated in 1937 after John Henry Lorimer bequeathed the bulk of his estate to the Society. The trustees are listed in the Society's annual report. Recently there have been a few changes.

In 2007 Dr John Hunter stepped down as trustee and was replaced by Jim Nisbet. John was on the Council of the Society from 1960 to 1976. During this period he was Vice President and President for two years each, followed by several years as Treasurer. He was Councillor again for several years in the late 1980s.

In 2008 Ray Fenoulhet has stepped down as treasurer and secretary of the trustees and is succeeded in this role by Alan Pickup. Ray remains as trustee. He was on the Council of the Society – with interruptions – from 1967 to 2001. During that period he was President for two years, Vice President twice for a total of three years, and Secretary from 1977 to 1983. Ray has been a trustee since 1983 and the trustees' secretary and treasurer since 2000.

## Contents of this issue

Birds and moon (cover photograph)	1
Forthcoming events	2
Moonwatch in North Berwick	3
Observing session at the dark site, Addiewell	5
2009 A Space Odyssey	9
Annual General Meeting	11
Annual Report for 2008	15
Society news	26

## About the ASE Journal

This Journal is published by

The Astronomical Society of Edinburgh  
c/o Graham Rule  
105/19 Causewayside  
Edinburgh, EH9 1QG  
<http://www.astronomyedinburgh.org>

The Astronomical Society of Edinburgh is registered Scottish charity SC022968. This Journal appears approximately four times a year, usually in March, June, September, and December. Contributions for publication should be sent to the editor by the beginning of the month preceding publication. Contributions are welcome from members of the Society, or regarding astronomy in Edinburgh or Scotland. The editor of this Journal is

Dr Horst Meyerdierks  
71 Cameron Toll Gardens  
Edinburgh, EH16 4TF  
<[editor@astronomyedinburgh.org](mailto:editor@astronomyedinburgh.org)>  
0131-668.8309 (at work)

The editor thanks Frances McNeill and the Royal Observatory for assistance with the distribution of the Journal.