No. 531 Registered Charity 271313 April 2017

OASI News

The newsletter of the Orwell Astronomical Society

M78 in Orion a bright reflection nebula 1,600 light years away. Quite hazy conditions.

8x480 seconds at iso400. Canon 60Da camera on skywatcher 190MN telescope. ***Photo: David Murton***

M63 – the Sunflower galaxy

by David Murton

M63 the Sunflower galaxy in Canes Venatici. 30 million light years away and 100,000 light years across. About the same size as our Milky Way. Above it can be seen UGC 8313 another member of the M51 group. Its very faint at magnitude 14. Canon 60Da camera on skywatcher 190MN telescope. 14x480 seconds at iso400.

Contents

Society Contact details

Observatory (meeting nights only)
See page 17 07967 519249

Email queries: info@oasi.org.uk

Yahoo group:https://groups.yahoo.com/neo/groups/oasi/info

Facebook: https://www.facebook.com/groups/445056098989371/

Twitter: @OASIpswich

The OASI Facebook pages are now proving very popular. Several non-members are active contributors.

Please send material for the OASI web site and newsletter e.g. observations, notices of events, general interest articles, to

news@oasi.org.uk

Other contact details will be issued to members on a separate printed list or emailed directly to those who only receive the e-version of the News.

Access into the School Grounds and Observatory Tower

Please use the third gate into the school grounds by the gym.

Areas out of Bounds

Access to the Observatory is **only via the black door** at the foot of the Observatory tower, which leads to the staircase and thence to the spiral staircase up to the Observatory. If the black door is locked, please phone the observatory mobile, 07967 519249 during meeting hours.

Please do NOT explore other routes. When in doubt, ask or call the Observatory mobile.

Remember this is a school and straying into the main part of the school where the pupils reside would cause the society big problems and could see us losing the use of the observatory. Any member found to be anywhere other than the approved access route or the observatory area will face serious sanctions up to and including expulsion from OASI.

Please note that access time for all observatory member nights is after 20:15

The key to the toilets in the school gym is located in the seating area in the Belvedere room.

Articles for OASI News

News, pictures and articles for this newsletter are always welcome. Please send them to

news@oasi.org.uk

The CLOSING date is the 15th day of the month

Please submit your articles in any of the following formats:–

Text: txt, rtf, rtfd, doc, docx, odt, Pages, pdf
Spreadsheets: xls, xlsx, OpenOffice/LibreOffice, Numbers
Images: tiff, png, jpg
Please send tables as separate files in one of the above formats.

If you don't feel up to writing a major article, perhaps you might write a short note for OASI News along the lines of *"This month I have mostly been observing/constructing/mending/reading/etc."*?

Articles win points! See page 15.

The full colour version is available from the OASI web site.

Newsletter archive www.oasi.org.uk/NL/NL_form.shtml

Authors, please note that your articles will now be publicly available worldwide!

Reproducing articles from OASI News

Committee 2017

Chairman	David Murton	Set overall agenda for OASI, Chair committee meetings, Press and publicity, Public appreciation of astronomy, Outreach activities.
Secretary	Roy Gooding	Outreach meetings (jointly with Chairman), observatory decoration.
Treasurer	Paul Whiting FRAS	Finance, Supervision of applications for grants, Visits by outside groups, Observatory tours, Public appreciation of astronomy (jointly with Chairman).
Committee	James Appleton	Committee meeting minutes, Web site
	Martin Cook	Membership, Tomline refractor maintenance & user testing
	Peter Richards	Lecture meetings, Email distribution lists
	Martin Richmond-Hardy	Newsletter
	John Wainwright	Equipment curator
	Mike Whybray	Astronomy Workshops, Child protection officer, Orwell Park School Astronomy Club.
	Avtar Nagra	Newbourne Observing Group
	Matt Leeks	Safety & security
Co-opted	Andy Wilshere	Librarian

Society Notices

Welcome new members

Graham Brundle John Root

Committee Meeting

The next committee meeting will be on Tuesday 25 April at 8pm, location TBA.

Contacts

A printed list of Committee and other activity contacts is available from the Secretary or the Observatory. Email links are available in the A4 pdf version of this newsletter.

For general enquiries please email info@oasi.org.uk and your enquiry will be forwarded for action.

Signing in and out

Please ensure you sign in and out when visiting the Observatory and/or Newbourne.

This is for fire safety precautions and also provides an historic record.

Orwell Astronomical Society Annual General Meeting

This is an extract from the full minutes which will be made available online.

Saturday 21st January 2017

Present

Roy Gooding	David Murton	James Appleton	John Wainwright	Alan Smith
Martin Cook	Mike Whybray	Andy Willshere	Mike O' Mahony	Andy Gibbs
Merlyn Adams	Roy Adams	David Brown	Joe Walsh	Stuart Debman
Ian Hastie	John Barbrook	Tina Hammond	Jeremy Startup	Alex Sinclair
Roger Driver	Graham Brundle	Adam Honeybell	Mike Norris	

1 Apologies

Matthew Leeks	Nicky Richards	Pete Richards	Martin Richmond-Hardy
Avtar Nagra	Neil Morley	Eric Sims	Paul Whiting

2 Matters Arising

- An Atik CCD camera was purchased
- A star diagonal was purchased for the Tomline telescope.

3 Minutes of Last Meeting

The minutes from the 2016 AGM were read and approved

Proposed by Alan Smith **Seconded by Martin Cook**

4 Chairman's Report

- 2016 was a pretty good year for OASI with membership numbers steady and an increasing attendance at our Newbourne meetings. The year has seen a shift in the focus of the society's events towards Newbourne with regular twice monthly meetings there all year and the workshops now being held there. The village hall now has an extended, all weather car park which OASI contributed financially to. The committee have been considering further changes to consolidate our presence there and later on tonight there will be an opportunity for members to hear of these and discuss them. They will involve a considerable expenditure but I feel they will be well worthwhile in securing our future while making more use of one of our most valuable assets.
- I have continued my monthly interviews on the Lesley Dolphin show on Radio Suffolk. Lesley does much to support us and publicise both OASI and our events and I would like to take this opportunity to thank her. We also have a presence on Ipswich Community Radio where Bill Barton has taken over the spot previously held by Neil Morley and Mike Norris.
- I have also given many presentations to other societies, both astronomical and others during the year, and would thank Mike O'Mahony for his help in some of these.
- During the year we have run several solar outreach events, despite Mother Nature's efforts to thwart us, together with a few stargazing ones. These included a record attendance at Holywells Park where hundreds descended on the few scopes that were there for the evening. Unfortunately this rather set the precedent for the year with it being very difficult to entice members to come along and support them. It was usually the faithful few that turned up and when they had other things to do, we sometimes came dangerously close to public and financial embarrassment.
  This is very unfortunate as these are very fulfilling events to do, bring in finances to the society and are a valuable source of publicity. It has been suggested at committee that

the number of events be severely reduced this year, perhaps to as few as four. I feel that this would be a grave mistake and if our membership feels it does not want to support public outreach, perhaps I am not the person to lead it. Later this matter will be discussed and you will be able to give your views. But please remember, it is no good saying, yes we should be holding events and then not be prepared to help. I also could be doing other things, but very rarely miss one so as to support the society.

- On a more positive note, it has been decided that, if we are to hold outreach events, they will be of a different nature. No longer will we be holding stand alone events that are so weather dependent, with the inherent uncertainty about whether they are on, require us to publicise them and offer nothing else for the members who help. Following the success of the last two years events at Jimmy's Farm and Norton Park, this year we intend to piggy back onto some larger local events where our attendance is definite, there is a large captive audience and there are other things for members to see during the day. However, these will require an early commitment from members as it can not be left to the last minute for us to know whether we have enough bodies to help.
- We already have a stand at the Framingham Country Show early in April. This is held over two days and usually attracts around 12,000 visitors. If you can help for either one or both days, please let me know asap so that things can be organised.
- This year marks the 50th Anniversary of the formation of the Orwell Astronomical Society. To mark the occasion we are organising two special events. The first will be an Astronomy festival at the University of Suffolk on the Ipswich waterfront on 29th July. With 5 key speakers, trade and society stands it promises to be one of the biggest and best events OASI has ever organised. It will however require a lot of support from the membership, so if you are requested to help please do so. As they say, "more hands make light work"!
- We will also be having a 50th Anniversary dinner during the year for current and past members. If you know of anyone who was a member in years gone by, especially the early days, please let us know. Further details soon.
- I would like to end by thanking everybody who helped with the organisation of OASI in 2016. This is especially true of the committee members who give up their time in order for the other members to have a society to belong to. They all do great jobs, but I would like to pick out a few that I personally feel deserve credit for an exceptional job.
- First of all James Appleton who runs the best society website in the country bar none. Ditto with Martin Richmond-Hardy and the newsletter. Paul Whiting who, with his helpers, runs all the observatory visits which generate us much income. Avatar Nara without whom the Newbourne meetings would not run. All too often he is left to clear up at the end of the evening. Don't forget it is supposed to be a night out for him as well. And finally, one of the society's unsung heroes, John Wainwright, who unstintingly supports all the events we run and is always ready with advice and help to new members. If I haven't singled you out, please don't take offence. I would just be here all evening if I was to mention everything that committee members do!
- However I am sure that some of them would be only too pleased to admit that they have been doing it so long that they deserve a rest! So next year can we please have some new faces standing? By the way, I intend that, if I am re-elected, this will be my last year as Chairman. After 5 years I think you will deserve someone else to nag you!

9 Election of Officers for 2017

Chairman David Murton proposed by Alan Smith
This was seconded by Martin Cook and passed unanimously

Secretary Roy Gooding proposed by John Wainwright
This was seconded by Tina Hammond and passed unanimously.

Treasurer Paul Whiting proposed by Alan Smith
This was seconded by Mike O' Mahony and passed unanimously

10 Election of Committee for 2017

The committee for 2017 was proposed by Mike Norris, seconded by Tina Hammond and passed unanimously:

Martin Cook	James Appleton	John Wainwright	Mike Whybray
Matthew Leeks	Avtar Nagra	Pete Richards	Martin Richmond -Hardy

Sections to be reported next month

5 Secretary's Report

6 Treasurer's Report

7 Trustee's Report

8 Other Reports

Membership	Maintenance	Workshops	Library	Web site
Newsletter	Safety	Lectures	Equipment	Newbourne

11 Events

12 Projects

13 2018 Subscriptions

14 Wish List Equipment and Acquisitions for 2017

15 Outreach Events 2017

16 Newbourne Matters

17 2017 50th Anniversary Events

OASI and BAA Events

For the latest event details, please see www.oasi.org.uk/Events/Events.php

There's a Google Calendar on the OASI web site with the latest dates (and corrections!). If you want to easily add OASI Events to your own computer/ phone/tablet calendar application click this button on the website Events page.

Download the OASI 2016 year planner from the web site. An A3 printer is advised.

For other astronomy news and astro pictures try our

Twitter feed https://twitter.com/OASIpswich

Facebook page https://www.facebook.com/pages/Orwell-Astronomical/158256464287623

Subscribe to the OASI Yahoo group by emailing oasi-subscribe@yahoogroups.com

Date and Time	Location	Contact	Event
Weekly, every Wednesday, 20:15–22:00	Orwell Park Observatory	Martin Cook, Roy Gooding	General observation (weather permitting) using a variety of telescopes. Entry via the third gate left. NOT the main gate
28 – 30 March	BBC TV		Stargazing Live
Wednesday 29 March 17:30	Burlington House Piccadilly London W1J 0DU	https://britastro.org/	Special General Meeting and Ordinary Meeting
Friday 7 April	Sparsholt College, Winchester	https://britastro.org/	BAA Winchester Weekend

Date and Time	Location	Contact	Event
Sat-Sun 8 & 9 April	Framlingham Country Show https://www.framcountryshow.co.uk	David Murton chairman@oasi.org.uk	**OASI display and solar observing at the Framlingham Country Show**
Monday 10 April From 19:00	Newbourne Village Hall	Avtar Nagra nog@oasi.org.uk	Newbourne Observing Group
Tuesday 11 April 20:00	Orwell Park Observatory	Paul Whiting treasurer@oasi.org.uk	Observatory visit. Booking essential.
Saturday 22 April	Cambridge	See page 15	SHA Spring Conference
Monday 24 April From 19:00	Newbourne Village Hall	Avtar Nagra nog@oasi.org.uk	Newbourne Observing Group + Workshop by Alex Sinclair: 'Galaxies Cold Dark Matter v MOND – Competing Paradigms'
Tuesday 25 April 20:00	TBA	Roy Gooding secretary@oasi.org.uk	Committee meeting
Saturday 29 April 10:00	The Birley Centre, 49 Carlisle Rd, Eastbourne BN21 4JR	https://britastro.org/	One Day Spring Meeting - "Planets in our solar system and beyond"
Sunday & Monday 30 April–1 May **Set-up 08:30.** No cars on site after 09:00.	Stonham Barns www.stonhambarns.co.uk/whats-on/mid-west-suffolk-show/	Roy Gooding secretary@oasi.org.uk	**OASI display & Public Solar observing at Mid & West Suffolk Show**
Monday 15 May From 19:00	Newbourne Village Hall	Avtar Nagra nog@oasi.org.uk	Newbourne Observing Group
Monday 29 May From 19:00	Newbourne Village Hall	Avtar Nagra nog@oasi.org.uk	Newbourne Observing Group
Wednesday 31 May 17:30	Burlington House Piccadilly London W1J 0DU	https://britastro.org/	Special General Meeting and Ordinary Meeting
Saturday 3 June 10:00	Cambridge	https://britastro.org/	Webb Deep-Sky Society Annual Meeting, Cambridge
Sunday 11 June 09:30	Kirton Recreation Ground IP10 0PW www.eswr.org.uk	Martin Richmond-Hardy g8bhc68@gmail.com	**OASI stand & solar observing at** E Suffolk Wireless Rally Admission £2
Monday 12 June From 19:00	Newbourne Village Hall	Avtar Nagra nog@oasi.org.uk	Newbourne Observing Group
Saturday 17 June (all day)	Burlington House Piccadilly London W1J 0DU	https://britastro.org/	Comet Section meeting

Date and Time	Location	Contact	Event
Monday 26 June From 19:00	Newbourne Village Hall	Avtar Nagra nog@oasi.org.uk	Newbourne Observing Group
Monday 10 July From 19:00	Newbourne Village Hall	Avtar Nagra nog@oasi.org.uk	Newbourne Observing Group
Saturday 15 July	TBA	https:// northessexastro.wordpress.com	**NEAS Starfest**
Monday 24 July From 19:00	Newbourne Village Hall	Avtar Nagra nog@oasi.org.uk	Newbourne Observing Group
Saturday 29 July 09:00–17:30	UCS, Ipswich	David Murton chairman@oasi.org.uk	**Public access event.** Major event to mark OASI's 50th anniversary. Lectures by big-name speakers, exhibitions, trade stands and much more.
Monday 14 August From 19:00	Newbourne Village Hall	Avtar Nagra nog@oasi.org.uk	Newbourne Observing Group
21 August	USA	www.greatamericaneclipse.com	Total solar eclipse
Monday 28 August From 19:00	Newbourne Village Hall	Avtar Nagra nog@oasi.org.uk	Newbourne Observing Group
Monday 11 September From 19:00	Newbourne Village Hall	Avtar Nagra nog@oasi.org.uk	Newbourne Observing Group
20 October 20:00	Museum Street Methodist Halls,	Pete Richards lectures@oasi.org.uk	Lecture: Dr Sarah Hutton has kindly offered to come to speak to us about “AGNs (Active Galactic Nuclei)”.
Monday 25 September From 19:00	Newbourne Village Hall	Avtar Nagra nog@oasi.org.uk	Newbourne Observing Group
17 November 20:00	Museum Street Methodist Halls,	Pete Richards lectures@oasi.org.uk	Steve Hubbard and Malcolm Brown will be "Talk with ET? We think not."

Newbourne Observing Group

Avtar Nagra nog@oasi.org.uk

We normally meet at Newbourne Village Hall, Mill Lane, IP12 4NP on the 2nd and 4th Mondays (with a few exceptions, like December and January).

The Newbourne Observing Group (The NOGs) is a good place to start for beginners. If you are thinking of buying a scope or binoculars, come and try before you buy and talk to owners about the strengths and weaknesses of particular models. If you've already splashed the cash, bring your new scope along to use or for advice on setting-up and adjustment. All welcome, with or without telescopes. We would like visitors to join OASI to enjoy the full benefits of membership.

The car park at Newbourne Village Hall has recently been much enlarged. OASI donated £100 towards this much-needed improvement.

Newbourne Observation Group Stargazer's guide

On the first meeting each month Bill Barton will give a short presentation of what can be viewed in the following 4 weeks. For armchair stargazers (on those cloudy nights) there is a small branch of the OASI Library held at Newbourne and a copy of the full catalogue.

NOG Meetings in 2017

16 Jan	30 Jan	13 Feb	27 Feb (S)
13 March	27 March	10 April	24 April(S+W)
15 May	29 May	12 June	26 June
10 July	24 July	14 Aug	28 Aug
11 Sept	25 Sept		

We open up for all meetings at 7pm. Star Guide (S) and Workshops (W) start at 8pm.

Please check the web site diary for any changes during the year.

Astronomy Workshops

Contact Mike Whybray **Location: Newbourne Village Hall IP12 4NP**

Doors open at 7:00pm. **Workshops start at 8:00pm**

Monday 24 April Workshop by Alex Sinclair: 'Galaxies Cold Dark Matter v MOND – Competing Paradigms'.

'Extensive astronomical and laboratory research encompassing almost four decades has uncovered no direct evidence of Cold Dark Matter – CDM remains hypothetical and elusive. In the 1970s and 80s a perceived need for CDM arose from a strong presumption that Newtonian mechanics must apply directly at galactic and larger cosmological scales. But scientific opinion seems to be turning and many physicists now accept that explanation of galaxy dynamics does not require CDM. This presentation debates how dissenters from the early CDM presupposition have argued that direct astronomical observation of galaxies reveals no place for CDM but instead demonstrates the necessity to modify Newtonian laws when applied beyond the confines of the Solar System.'

If you are a new OASI member, or haven't been to one of these informal workshops before, they are a mixture of events of different characters including beginners talks, interactive workshops, films, etc., suitable for all. They are also a chance to chat with other members over a cup of tea and a biscuit, in a venue rather warmer than the observatory dome on a winter's night!

Given a clear night, we can make use of the field for a workshop or continue afterwards with some observing.

Do you have a subject you could workshop? You could do a short one, or share the effort with a partner. Drop Mike Whybray a line! workshops@oasi.org.uk

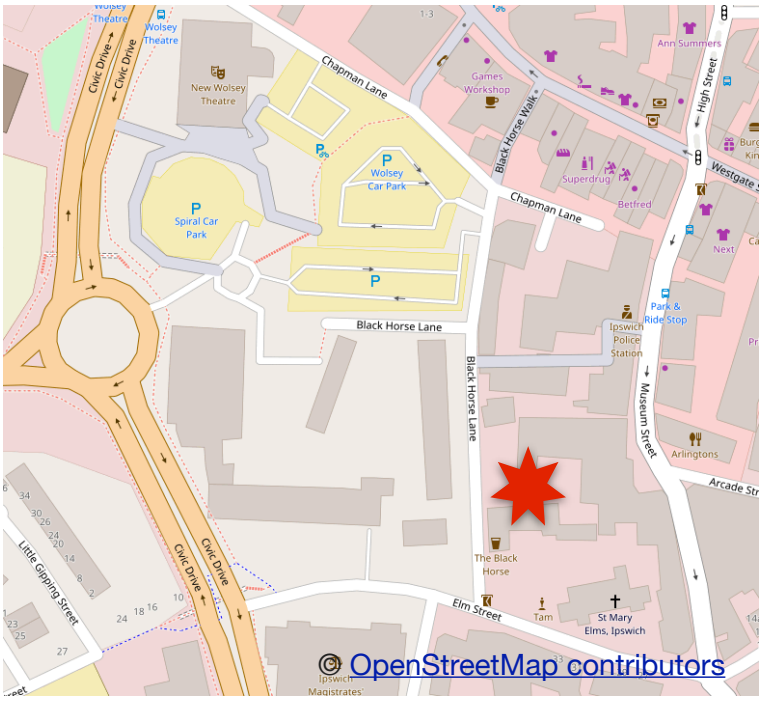
Lecture Meetings

Contact: Peter Richards **lectures@oasi.org.uk**

These take place in Museum Street Methodist Halls, Upstairs room, Black Horse Lane, Ipswich

There is some parking at the venue but if there is no space at the venue you can drive to the end of Black Horse Lane and turn left to find a pay and display car park which charges (at the time of writing) £2 for parking between 6pm and 6am.

NB The spiral car park by the New Wolsey theatre is CLOSED.



Please note that we have to be out of the building by 10pm

20 October

Dr Sarah Hutton has kindly offered to come to speak to us about *AGNs (Active Galactic Nuclei)*.

Sarah also studies Galaxy Evolution.

She is a fully qualified teacher and lectures to primary and secondary schools and is very active in promoting the public understanding of science.

17 November

Steve Hubbard and Malcolm Brown *"Talk with ET? We think not."*

DASH Astro Events – 2017

See http://dash.moonfruit.co.uk for the latest details.

All DASH Astro observing sessions will take place at WESTLETON COMMON. ASOG observing sessions and locations may be arranged at the time of observation.

Unless stated all group meetings will take place at WESTLETON VILLAGE HALL from 7:30 pm

Date	Event
08.04.2017	Meeting – Dr Dan Self – Where Earth Ends and Space Begins
13.05.2017	Meeting – Dr. Malcolm Brown & Dr Steve Hubbard Talk with ET? I think not!
03.06.2017	Meeting – Dr Paul Whiting – Report on the New Horizon space mission

The Night Sky in April

Martin RH

All event times given are for the location of Orwell Park Observatory 52.0096°N, 1.2305°E

Times are in BST (GMT+1).

Moon

Source: http://heavens-above.com/moon.aspx

New Moon	1st Quarter	Full Moon	Last Quarter
28 March 03:57	03 April 19:40	11 April 07:08	19 April 10:57
26 April 13:16			

Sun, Moon and planets

Source: http://heavens-above.com/PlanetSummary.aspx

Object	Date	Rise	Set	Mag.	Notes
Sun	1	06:30	19:29		
	30	05:27	20:19		
Moon	1	09:20	01:04		
	30	08:52	00:59		
Mercury	1	06:51	21:21	0	1 April Maximum eastern elongation
	30	05:10	18:35	2.6	
Venus	1	05:30	18:39	-4.1	
	30	04:14	16:28	-4.4	
Mars	1	07:37	22:40	1.6	
	30	06:33	22:41	1.8	
Jupiter	1	19:56	06:58	-2.3	
	30	17:42	04:57	-2.3	
Saturn	1	02:11	10:00	1.2	
	30	00:15	08:04	1.1	
Uranus	1	06:59	20:26	5.9	14 April Superior conjunction
	30	05:08	18:42	5.9	
Neptune	1	05:53	16:32	8.0	
	30	04:00	14:43	7.9	

Asteroids

Source: http://heavens-above.com/Asteroids.aspx

Vesta fading from magnitude 7.2 is currently visible in Gemini.
See http://heavens-above.com/MinorPlanet.aspx?desig=4&

Ceres fading from magnitude 9.1 in Aries http://heavens-above.com/Asteroids.aspx

Occultations during April 2017

James Appleton

The table lists occultations during the month under favourable circumstances. The events should be readily visible in small telescopes or binoculars. The first two columns list the date and time (UT) of the occultation. Column three gives the phenomenon: 'D' denotes a disappearance and 'R' a reappearance. The table lists circumstances of disappearances and reappearances as dictated by the visibility of each phenomenon (determined by altitude, lunar phase, etc). Column four details the lunar phase ('+' for waxing and '-' for waning). Columns five and six give the altitude of the Sun and the star, both in degrees. (A negative solar altitude means that the Sun is below the horizon.) Columns seven and eight provide the star's magnitude and catalogue number.

The data relates to Orwell Park Observatory, but will be similar at nearby locations.

Please note that times are shown in UTC. Add an hour for BST.

Date	Time (UT)	D/R	Lunar Phase	Sun Alt(°)	Star Alt(°)	Mag	Star
02 Apr	23:51:09	D	0.41+	-33	10	6.4	ZC 934
04 Apr	19:51:27	D	0.62+	-12	53	7.5	Hip 39046
04 Apr	21:39:59	D	0.62+	-25	44	7.4	Hip 39416
06 Apr	02:05:14	D	0.74+	-25	11	7.3	Hip 44831
06 Apr	20:07:38	D	0.81+	-14	49	6.9	21 Leo
07 Apr	01:00:43	D	0.82+	-30	26	7.4	Hip 48911
13 Apr	23:39:18	D	0.93-	-29	16	3.9	38 Lib, Γ Lib, Zuben Elakrab
	00:55:38	R		-27	22		
28 Apr	19:06:17	R	0.08+	0	22	0.9	87 Tau, α Tau, Aldebaran
30 Apr	21:15:04	D	0.25+	-15	22	7.3	Hip 32532
30 Apr	21:28:30	D	0.26+	-16	20	6.3	ZC 1040

Comets due in 2017

Bill Barton

Here are the comets listed in the BAA Handbook with single figure peak magnitudes:-

- 45P/Honda-Mrkos-Pajdusakova, peak magnitude 6 in January and **visible from the UK from January to May**
- 41P/Tuttle-Giacobini-Kresak, peak magnitude 3 in April and **visible from the UK from January to July.**
- Johnson (2015V2), peak magnitude 7 in June and **visible from the UK from January to July.**
- 96P/Machholtz will peak at magnitude 2 in October, but will not be visible from the UK.

Meteor Showers

Source: BAA Handbook 2016 p97-99

Shower	Limits	Maximum	ZHR at Max	Notes
Virginids	Mar–Apr Apr 6–17	Apr 11–12	5	The two most prominent of several radiants in Virgo, Active March – April. Slow long paths.
Lyrids	Apr 18 – 25	Apr 22	10	Normally rather moderate activity, but fine disoplays in 1803, 1922, 1982. Very favourable.

Visible ISS passes ≥15º max altitude

Martin RH

Source: http://heavens-above.com/PassSummary.aspx?satid=25544

Evening passes for the first 13 days this month.

Times are BST. Predictions are approximate (data taken on 14 March) due to craft adjustments. Check the day before.

Date	Mag	Start			Highest point			End		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
01 Apr	-3.4	21:15:08	10°	WSW	21:18:23	76°	S	21:19:15	46°	E
02 Apr	-3.2	20:22:39	10°	WSW	20:25:53	61°	SSE	20:28:56	11°	E
02 Apr	-2.7	21:59:01	10°	W	22:01:35	51°	W	22:01:35	51°	W
03 Apr	-3.4	21:06:27	10°	W	21:09:44	86°	S	21:11:10	31°	E
03 Apr	-0.7	22:42:55	10°	W	22:43:49	17°	W	22:43:49	17°	W
04 Apr	-3.3	20:13:55	10°	WSW	20:17:11	79°	S	20:20:28	10°	E
04 Apr	-3.2	21:50:21	10°	W	21:53:21	67°	SW	21:53:21	67°	SW
05 Apr	-3.4	20:57:47	10°	W	21:01:03	83°	S	21:02:51	25°	E
05 Apr	-1	22:34:16	10°	W	22:35:29	19°	W	22:35:29	19°	W
06 Apr	-3.1	21:41:38	10°	W	21:44:51	52°	SSW	21:44:56	52°	SSW
07 Apr	-3.3	20:49:02	10°	W	20:52:17	68°	SSW	20:54:24	20°	ESE
07 Apr	-1	22:25:44	10°	W	22:27:02	18°	WSW	22:27:02	18°	WSW
08 Apr	-2.4	21:32:56	10°	W	21:35:57	34°	SSW	21:36:29	31°	S
09 Apr	-2.8	20:40:15	10°	W	20:43:26	47°	SSW	20:45:57	15°	SE
09 Apr	-0.7	22:17:36	10°	WSW	22:18:35	13°	SW	22:18:35	13°	SW
10 Apr	-1.4	21:24:23	10°	W	21:26:54	20°	SW	21:28:04	17°	S
11 Apr	-1.9	20:31:30	10°	W	20:34:25	30°	SSW	20:37:19	10°	SE
13 Apr	-1	20:22:57	10°	W	20:25:17	18°	SW	20:27:35	10°	S

Iridium flares

Too many to list but see http://heavens-above.com/IridiumFlares.aspx

Paul's Astronomy Podcast for April

Paul Whiting FRAS Podcast, April 2017 www.oasi.org.uk/2017_04_pod.mp3

David's Radio Broadcast

On the 1st Tuesday of the month, 1.40pm on the Lesley Dolphin show on BBC Radio Suffolk – now digital (channel 10c) and FM 103.9 (Ipswich), 104.6 (west Suffolk), 95.5 (Lowestoft), 95.9 (Aldeburgh).

Bill's Radio Broadcast

ICRFM (Ipswich Community Radio) 105.7 MHz at about 08:25 in the morning of the first Wednesday of each month. I aim to cover what there is to see in the sky and then a little bit on something topical.

ICRFM is also available to listen to over the Internet and there is a listen again option on their website. www.icrfm.com

BAA Tutorials on the Web

Atmospheric dispersion and its effect on high resolution imaging

By Damian Peach

The single biggest problem facing any observer wishing to undertake a programme of high resolution photography is the atmosphere. When a good quality, well collimated telescope is used the atmosphere is responsible for nearly all deterioration of the image quality delivered at focus.

https://britastro.org/node/9058

Introducing QUICKMAP – an invaluable resource for the lunar observer

By Bill Leatherbarrow

There are those who would argue that the ever-increasing flow of lunar data from spacecraft has effectively rendered the telescopic lunar observer redundant. The truth is just the opposite: spacecraft datasets, freely available via the internet, have provided powerful new suites of tools that the amateur can use to supplement his or her observations.

https://britastro.org/node/9090

Binoculars for the traveling astronomer

By Stewart L. Moore

Many observers these days are taking advantage of the availability of cheap flights to travel to far flung countries to observe, frequently combining astronomy with a family holiday. Although these flights have never been cheaper or available to more destinations, they usually come with baggage restrictions and severe financial penalties for exceeding them. Binoculars are an ideal solution for the weight-conscious traveller, as they can be used for other activities such as bird watching, in addition to astronomy.

SHA Spring Conference

Saturday 22 April at the Institute of Astronomy, Cambridge

https://societyforthehistoryofastronomy.com

Speakers include:

- James Hannam (Medieval Visions of the Heavens)
- Stewart Moore (Charles Messier)
- Simon Mitton (The History of Planetary Science)
- Howard Carlton (John Pringle Nichol)
- Mark Robinson (George With)

OASI Member of the Year Competition

- Open to any non committee member (at time points earned)
- Runs from 1st September to 31st August each year
- It is the members responsibility to check that they have been credited the points for a particular event

Activity	Points	Activity	Points
Helping at an OASI outreach event	10	Writing a newsletter article (per page)	3
Giving a workshop/monthly sky notes	20/10	Introducing a new member	5
Astro photo published	2		

Top 4 Members' points to date

Bill Barton	71
Andy Gibbs	58
Rob Herring	46
Mike O'Mahoney	40

Come and help at one of our outreach events and earn 10 points. You don't need to be an expert!

Write a short article for the magazine, e.g.

> Bought some new astronomy kit? Tell us about it – successes and pitfalls.

New: You now get 2 points for a published astrophoto.

Martin RH

The Observatory telephone

The observatory telephone has been having problems lately.

NB The phone should NEVER be switched off!

We apologize if you called but no-one answered.

If you arrive at 8–8:15 there should be someone in the car park who can let you into the observatory door. The mobile phone signal can be weak around the school.

Looking Back into OASI Past: Observatory Repair and Restoration 1980–90: Part 2

Roy Gooding

This report is based one I put together, from various sources, for a meeting with the School's Headmaster and Governors in the early 2000s. I have included both the source material and the written reports.

Maintenance Notes From the Observatory Log 1981 – 1989

The interiors of the observatory, clubroom and stairwell have not been painted for a number of years. The observatory is now starting to look somewhat run down, this will be rectified this year. As ever it is a small job for a number of willing volunteers and a hard one for a hand full of press-ganged volunteered members. I propose to make a start around Easter time. The clocks will have been put forward an hour and observing time will be reducing for the next few months.

1981 Observatory Log

1981 was a major repair and reconstruction year. The observatory was closed for several months, resembling a building site rather then a venue of science. The following is a taken from reports that appeared in the Newsletters during the year. Tower scaffolding was in continuous use for weeks. The biggest single job was to sand down the observatory mahogany panelling and to re-varnish it. This was an arduous job and took many weeks, of sustained hard work This was the first time it had probably been re-varnished since the observatory had been built.

Meanwhile, outside the observatory tower, suspended on a mountaineer's climbing harness. Colin Button was playing Spider Man while member's fed him with cement so that; he could re-point the observatory tower. Collins endeavour made the front page of the East Anglia Daily Times.

The next attack front was the sealed up lift shaft door. The door had been sealed for many years for safety reasons. Behind it was the lift shaft floor, which was completely dry rotted. Below it was a 60 foot drop to the basement. The door and its rotten frame were removed and a new door frame constructed. The door was re-shaped and re-hung and could be opened and locked with a key, instead of several 6" nails.

The full frontal attack on the observatory walls commenced. Any loose brickwork and plaster was removed. Large quantities of sand, cement, plaster and water were hauled laboriously up the 111 steps to the observatory room, before reconstruction could begin.

Apart from repairing the inside of the observatory, a major engineering effort was required to re-construct the base of the observatory shutter. The bolts holding the bottom shutter track to the support brackets had been scraping the lead from the roofing when the observatory was rotated. The bottom support brackets of the shutter track had to be raised before the lead could be repaired. While attempting this task that disaster struck. The shutter track is (or was) supported by three cast iron brackets. One of these had been removed for repositioning the track, and strain on the two remaining brackets was too great and both fractured. This left the shutter completely in operable. Two new steel support brackets were fabricated.

After the reconstruction work everything, including the transit room was painted out. The floor was sanded down and varnished and the telescope given another coat of battle ship grey. The telescope was enhanced, with the addition of a stepper motor to drive the RA axis

1982 to 1987 Observatory Log

After all the hard work in 1981, 1982 was taken more leisurely. Very little work of any note was undertaken. The biggest job undertaken in 1983 was repairing the roofs above the stairwell, lift shaft and the transit room. A pair of new wheels were fitted to the bottom of the observatory shutter. Opening and closing the shutter was greatly improved. The gutter around the base of

the observatory had almost rusted away, so several coats of resin were applied to the gutter walls.

In June of 1982 a number of dead bees began to accumulate on the floor of the observatory. By the summer of 1983 we had a major insect infestation. Throughout that summer there was the constant accumulation of dead and dying bees in the observatory. Every week these had to be swept up, numbering many hundreds at a time. A bee's nest was eventually discovered inside the top of the shutter.

The bees were evicted a week after Christmas of that year, with the help of a local bee-keeper. There is a well documented account of removing the nest, in February's edition of the 1984 newsletter by Alan Smith, under the title of "Search for the Beehive**"** Some of the highlights were:

A 30ft ladder was firstly manhandled up the 60ft side of the observatory, the spiral stairs were not designed to admit such a long object, together with circular saw, hammers, crow bars etc. Colin Button was persuaded that he should ascend the ladder. It had been estimate in the summer of 1983, about 60,000 bees were living in the observatory and they could increase by 30,000 per year. The mahogany planks lining the observatory shutter were cut and, removed, revealing, the whole honeycomb plus a football sized huddle of 25,000 – 40,000 bees. The bee-keeper, Mr Drew, took over at this point, arriving with a large box equipped with special frames on which to tie the honeycomb. He cut each of the 20-24 inch long tongues of the honeycomb away from the copper clad outer skin of the observatory and tied them onto the specially constructed frames that acted as the new home for the bees over the winter period.

Other work done in 1984 included completing the bench seating in the Belvedere room, replacing two floorboards in the observatory and painting the observatory walls again. The 10" refractor was upgraded with the addition of a new 4" refractor. This was to be used as a finder, when the main telescope was in use for photography.

The 10" telescope received most of the attention in 1985. The periscopes were removed and the mirrors re-aluminium. A camera bracket was made, and the telescope's Dec and RA axes were lubricated. Another observatory floorboard was replaced.

In the summer of 1986 another major structure failure occurred. The School had scheduled to have the flat roofs of the transit room, lift shaft and stair well re-leaded. The rolls of lead were winched up the lift shaft and left in a single heap in the middle of the observatory floor. We were very lucky that the floor did not collapse under the weight. When the lead rolls were lifted to the outside of the observatory, they were rested on the observatory shutter step. The cast iron observatory rotation ring fractured under the weight. New shutter support brackets were made and a 10ft steel strengthening bar was bolted onto the inside of the observatory track under the shutter step. Other work included taking the 10" lens from its cell, in June for cleaning, and inspecting the shutter's top track

As with all the other articles in this series the information has been obtained from the observatory logbook, newsletter articles, Committee meeting reports and personal reminisces.

1987 Observatory Log

1987 was a major year for repairing and painting. The year started off in a small way with the fitting of a new lock in the observatory door. From this it rapidly escalated into a full time job.

The transit room was completely refurbished. Rotten timbers from the shutter were removed and replaced. The old floor was taken up and replaced with a new one. Research on the construction of the observatory had recently revealed that transit room floor had been lower than the one taken up. The floor was reinstated at the original height. It was immediately obvious that the transit telescope was now more accessible, especially at high altitudes, when using the observing couch. The tops on the telescope support pillars were also recast. The transit room was completed after the walls had be painted and the new floor as stained and varnished.

Parts of the mechanics of the observatory were repaired. A new shaft was constructed for the observatory rotation wheel and two of the wheel boxes were repaired. One was raised by 3/16"

A professional plaster was brought to the observatory one Saturday. He was able to re-plaster in a morning, what would have taken us many weeks. The walls and woodwork in the observatory were painted, the floor was sanded, stained and varnished.

Once the transit room and the observatory had been completed, we started on part of the observatory that had never been decorated since its construction, the spiral stairwell leading up to the observatory. This had always been difficult to keep dust free and painting all the surfaces would help to alleviate this problem It was decide to sandtex the walls and use concrete paint on the stairs. Once finished the dust level was greatly reduced, though it would not be until the following year.

As with all the other articles in this series the information has been obtained from the observatory logbook, newsletter articles, Committee meeting reports and personal reminisces.

1988 Observatory Log

Decorating work continued right through the winter months. This was the first time any work had been continued after the summer period. Work continued on painting the spiral stair well walls, which was completed by the end of April.

Work commenced on a new area of the observatory tower, which had never been tackled before, namely the clubroom. The floor was painted together with sandtexing the stone areas of the walls. Two windows that had been in a very poor state, for as long as any one could remember, were replaced by the school under their normal maintenance scheme. The one in the stair well had been missing a pain of glass for at least the previous 10 years. Two of the balcony doors were missing pains of glass, these were replace by the school at this time. Previously these doors had been boarded up with sheets of plywood, for many years.

Additional work was also under way in the observatory. Opening the transit roof had always been a precarious procedure. It involved climbing onto the Transit roof and opening the shutter by hand. Originally the shutter had been open from the inside using a rack and pinion mechanism. This original mechanism still existed but the method of use was still a mystery, though it was assumed that some form of counter weight system must have been used. A new counter weight system was designed and fabricated by Martin Cook. This new method of opening the transit shutter was much safer, and works well with care.

Other work in the observatory included: repairing the observatory chair. Refurbishing the telescope periscopes, cleaning the telescope clock drive and painting the telescope.

Data From Observatory Log Book

1981 Observatory Log Book

Date	Work	Date	Work
17th April	Work on drive:- Dave Payne	7th August	Jacked up shutter to measure for new support brackets
29th June	Observatory wall repairs	9th August	shutter repairs continuing
1st July	Continuing with repairs	12th August	Finished shutter repairs (shutter can now be opened normally again)
4th July	Sanding observatory inside Painted outside of observatory windows. First varnish on part of shutter	22nd August	Took down scaffolding
5th July	Painted undercoat of lift door frame. Continuing sanding shutter	23rd August	Finished undercoating observatory walls

Date	Work	Date	Work
6th July	Started cementing lift door frame in.	2nd September	Painting observatory walls
12th July	More observatory sanding	3rd September	Painting balcony doors
13th July	More work on lift shaft door frame. More observatory sanding	25th September	Sanded observatory floor
25th July	Finished sanding observatory. Filled in bird holes in shutter (Starlings had nested in it) Oiled shutter top runner. Painted top shutter track with Red oxide	27th September	Varnished observatory floor
26th July	Cleaned rust out observatory track & wheel boxes	28th September	2nd coat of varnish to observatory floor
27th July	Tarred transit roof	30th September	3rd coat of varnish to observatory floor
29th July	Completed sanding shutter. Completed clearing out track and wheel boxes. Varnished small section of observatory as a trial	4th October	4th coat of varnish to observatory floor
30th July	Measured shutter for repairing broken wood at the base	7th October	Painted transit telescope mount
1st August	Varnished inside of observatory. Decorating at observatory all day	8th October	New wheels on observatory observing chair
3rd August	Shutter repairs continuing. 2nd coat of varnish on inside of observatory	9th October	Periscopes back on telescope
5th August	Base of observatory shutter support broken. Painted Belvedere windows		

1983 Observatory Log Book

Date	Work
6th April	Painted notice boards
26th June	Bees in observatory
3rd July	Painted notice boards

1986 Observatory Log Book

Date	Work
11th June	10" lens taken out for cleaning
18th June	Lens refitted. Observatory shutter catching on observatory
29th June	Inspected shutter top track. Needs adjusting
16th July	Work on shutter track
30th July	More work on shutter track

1987 Observatory Log Book

Date	Work	Date	Work
8th April	Started to fit lock in observatory door	28th October	Measured transit room side shutters. Delivered skirting board for transit room. Carried 12 breeze blocks up for transit room floor
12th July	Started sanding down balcony door	5th November	Painting transit room walls
19th July	More decorating work	7th November	Work in transit room
26th July	More decorating work	11th November	More decorating work
21st August	Removed wheel box stone cover	12th November	Painting in transit room
23rd August	Wheel box removed (west side) & replaced. Adjacent one raised by 3/16"	13th November	Finished painting transit room
26th August	Wheel box work completed	15th November	Sanded observatory floor
6th September	Working on observatory walls	16th November	Stained observatory floor.
9th September	work continuation	18th November	1st varnish coat on observatory floor. 2nd varnish coat on transit room floor. 2nd varnish coat on stairs
13th September	Painted observatory walls	2nd December	Light sanding of observatory floor
16th September	1st undercoat on observatory walls	5th December	3rd coat of varnish on observatory floor
19th September	Finished removing paint from transit telescope column	8th December	Stair well windows painted
29th September	Gloss painted the observatory walls. Under coated transit room walls	9th December	Started sandtexing stair well walls
7th October	Removed transit room floor	19th December	Painted stair well walls
17th October	Making template of transit room floor	23rd December	Painted stair well walls
22nd October	Purchased plywood for transit floor to art room	31st December	Painted stair well walls
24th October	Started fitting new transit room floor		

1988 Observatory Log Book

Date	Work	Date	Work
20th January	Started sandtexing stairs	7th May	Removed balcony window from clubroom. Will be replaced by school
27th January	Sandtexed walls at bottom of stair well	11th May	Painted window frame in Belvedere room. Sanded a second balcony window frame
31st January	One periscope returned	15th May	More work on balcony doors
3rd February	More painting again	19th May	Replaced window frame painted last night
10th February	More painting again on stair well	25th May	Fixed pulley at top of shutter. Painted window frame, sanded an other frame
17th February	More painting again	1st June	More decorating work
29th February	Under coated stair well window frames. Started sanding steps into observatory	31st August	Painted gloss on balcony window
7th March	Stairs into observatory varnished	14th September	Painted another window frame. Continued sandtexing in Belvedere room ?
30th March	More painting. 2nd coat top of stairs, 1st coat bottom of stairs	28th September	Sandtexing in Belvedere, painted another balcony window frame
20th April	More decorating	5th October	More painted in Belvedere room. Sandtexing and gloss painting
4th May	More painting	23rd November	Painted Belvedere floor

1989 Observatory Log Book

Date	Work
11th January	Repointing brick work in clubroom
15th March	Brought RSS for lift shaft
29th March	Brought RSS for lift shaft
5th April	More floor boarding bolted together in lift shaft
31st May	Continuing work in lift shaft
14th June	Lift shaft floor at club room leave almost complete. Plan for observatory level floor devised
8th August	Joist hangers arrived. No entries in Log about building computer room floor

Maintenance Notes Taken from Committee Minutes

1980 Committee Minutes
- Nothing found

1981 Committee Minutes
- Decorating in July, August
- Stepper motor fitted to telescope

1982 Committee Minutes
- Nothing of any note

1983 Committee Minutes:
- Resin in gutters
- Lift & Transit roofs repaired
- New wheels fitted to bottom of observatory shutter
- Stair well roof repaired

1984 Committee Minutes:
- Removal of bees nest in shutter
- Bench seating completed
- Painting observatory walls
- Two observatory floor boards replaced

1985 Committee Minutes:
- Observatory floor board replaced
- Observatory gutter cleaned out
- Periscope mirrors re-aluminised
- Telescope re-lubricated
- Camera bracket on telescope

1986 Committee Minutes:
- Repair of the observatory track ring, new shutter support brackets made

1987 Committee Minutes:
- Observatory plastering completed
- New shaft for the observatory rotation wheel
- Two observatory wheel boxes repaired.
- Observatory painted
- Transit shutter repaired and re-hung
- Observatory floor sanded, stained & varnished
- Transit room painted & floor stained and varnished

1988 Committee Minutes:
- Stair walls painted
- Telescope base painted
- Redecorating the Belvedere room

1989 Committee Minutes:
- Lift shaft floored across at the Belvedere room and at the observatory level

1990 Committee Minutes:
- Half floor above the library floor built

Article from the Library

Andy Willshere

Hi, I came across this article whilst perusing the net and thought that it may be of interest. It makes a change from the usual antiquarian books.

When the 10th SpaceX commercial re-supply assignment is propelled towards the International Space Station it will have on board a scientific module called Raven that will run tests to see if it can self-determine a rendezvous point in space. When the prototype has been fully authenticated it will mean that eventually it will operate on autopilot.

During its stay at the space station it will be affixed to the outside. From this point, it will independently register, record and analyse incoming and outgoing course data from any craft docking. Using algorithms, which are specific sets of calculated instructions, it will judge the relative distances between the visiting spacecraft and Raven. This information acquired by Raven will be assimilated by its processors and will automatically use this data to allow it to track the incoming or outgoing space craft. This will enable NASA scientists based on Earth to see how Raven's system accommodates this data, and from this they can improve the tracking performances.

Inside Raven, there are sensors, which incorporate infrared, visible and lidar, high speed processors and highly developed algorithms.

Raven will input the data, perform specific calculations to upgrade its sensors, machine vision algorithms and processors. This information will eventually be incorporated into the manufacture of the fully robotic service equipment; Restore L. This will form a real- time navigation system, and is being developed and managed by Satellite Servicing Projects Division (SSPD) at NASA's Goddard Space Flight Centre in Maryland.

The lifespan of Raven is considered to be 2 years, and so over this period, Raven will continue to test its crucial systems that will eventually allow it to support NASA assignments into the next decades. One application already considered is to help the Restore-L servicing mission plot the course to refuel Landsat 7 , a U.S government Earth observing satellite which is in orbit at present. It may also be considered for NASA's expedition to Mars.

Reference: https://www.nasa.gov/topics/technology/robotics/index.html

OASI Member Survey report

Martin Richmond-Hardy

Introduction

Membership renewal forms this year were associated with a short survey form. With 82 forms returned from 118 members (including one who has not renewed), the following is a summary of the results. I have the ability to link the database to the current membership data which enables identification of those who are willing to help or organise events, or who require advice.

Responses

Reports returned	82	
of which		
Blank forms	3	
Member not renewing	1	but data included

Skills

A somewhat subjective view, left to the member to decide on interpretation.

Beginners	37
Intermediate	32
Advanced	5
Professional	1
no response	6

Interests

Sun	30
Moon	63
Planets	67
Deep sky	45
Meteors	34
Aurora	27
Noctilucent clouds	13
Radio-Astronomy	7
Astrophotography	32
Measurement	14
Other	
Cosmology	3
Astrophysics	1
Spectroscopy	1

Equipment

Looking for advice	6
Binoculars	38
Telescope(s)	53

Activities

Using OPS	31
NOG	38
Public outreach	24
Home Observing	49
Using other observatories	7
Lectures	48
Workshops	39
Visits	19
Armchair astronomy	29
Willing to help with activities	29
Willing to organise activities	7
I'd like more information	3
Other: Telescope making	1

Comments

Skills comments

Number of forms with comments 3

- FRAS, radio astronomy at Jodrell Bank 1965–67
- I have a background interest but have never got going to develop expertise.
- Just old at 88!

Interests comments

Number of forms with comments 8

- History of planets, galaxies, etc.
- No astrophotographer's equipment yet but interested.
- Spectroscopy
- General
- I think I would be most enthused by making measurements and that I think that could be done across a range of observations. I know too little to judge really.
- Collect old astronomical instruments, sundials, planetaria, charts, [???] etc. Sunspots (using a SAFE! instrument) naked eye or binoculars only.
- Speed of light, transits, etc.
- General wide interest [primary interest areas checked].

Equipment comments

Number of forms with comments 25

- Celestron Nexstar 6
- Celesta on 8" HD, Megrez 90mm
- Equinox ED120 on NEQ6
- Need advice on how to set up/use Tasco
- Lundt Engineering 16x70x4°
- Always learning and so little time.
- 114mm x 900mm Newtonian
- Celestron EDGE HD8 on AVX mount
- Revelation 15x70 bins, Skywatcher 200P Dob, Skymax 127 Matsutov-Cassegrain, HEQ5 and A-Z mounts.
- 6" SCT, EQ6 mount, Canon 20D Astro mod
- C11 & EQ6
- SCT 235mm, f/10, 12" Orion Dob, Canon 60Da
- Meade reflector 114mm
- RSPB HD 10x42 6.5°, Meade LS-8, Viking V66 HD
- Scope: 2" objective mag 25x
- 10" Dob
- I have a cheap pair of bins. I have a low grade telescope.
- Meade ETX125, 8" Dob
- 8" Mak, 80mm refractor
- Meade DS2114 ATS
- Radio telescope, meteor trail radio reflection receiver.
- Nikon DSLR
- 12" Dobsonian, 4" refractor
- 80mm refractor, 130mm Newtonian, PST
- Bins: Wilkinson Skyline 20x80, Skywatcher 200P Dobsonian, Camera: ZWO ASI 120MC

Activities comments

Number of forms with comments 15

- Telescope making (MMT)
- Not at present but hopefully in the future
- Will start [NOG] for Tasco advice. Use of current telescope.
- When well enough
- Willing to help with visits
- Enjoy talks & workshops on cosmology, astrophysics, etc.
- NOG when I can. Bury last year. More info about visits.
- L&W: not recently
- Armchair so far!
- Intend to (NOG & Home)
- I regret that I am unable to visit the observatory as for me the stairs are unsafe (no rope or handrail). If I had transport I would like to attend occasional lectures & public [????] events, meteor watches.
- OPS: occasionally now. NOG: Sometimes. Public outreach: very occasionally now. Home: mainly if not too cold. L&W: If/when convenient
- NOG: Not managed to get there yet
- OPS: stairs now defeat me!

Other comments

Number of forms with comments 12

- I enjoy coming to the lectures and workshops. I don't really do any observing.
- Have a caravan at a dark sky site in N.Norfolk and would like to use telescope there as currently live in centre of Ipswich (light pollution). Was given Tasco scope about 3 years ago and re mains unused!
- I would like to thank those that put so much time and effort into the OASI and if I can be of use in the future I would be

glad to help, e.g. Wood turning, welding, etc. I just need a little notice beforehand.

- ESWR at Kirton - radio astronomy & solar opportunity
- For next year's renewal - how about putting OASI's bank a/c details on the form so people can pay online. It would save some admin – and I could get rid of my cheque book!
- I've decided not to renew this year and to just concentrate on my other hobbies (bell ringing, etc.) Thank you for all the newsletters, which are always interesting.
- I have been to a couple of events which were very good but not enough to become sufficiently knowledgeable about which type of equipment would work best for me.
- As a matter of interest the limited edition plate (50) OAS of the transit of Venus 2004 only 18 were ever made – first ones were presented tp Patrick Moore, Prof. Chapman, the schools and Society had one or more. The firm CAZ went out of business 2 years later so any remaining plates of the initial run will be all here are. In spite of the Society advertising them in the magazine, nobody was interested – rest went to my family and friends.
- Help: Done my bit for 10 years but depends what it is!
- Will try to attend more often than I have recently.
- Happy New Year!

Requiring advice or more information

Steve Cates	Not stated but seems to be advice on equipment
Neil Morley	More information (not stated)
Richard Stanfield	Use of current telescope (Tasco). Was given Tasco scope about 3 years ago and re mains unused!
Ian Hastie	Non-specific
Steve Steele	Visits
Ian Henning	Has a cheap pair of bins and a low grade telescope. Upgrade advice?
Paul Burroughs	No equipment. Purchase advice?
Stephen Hodd	No equipment. Purchase advice?

Willing to help with activities

The following lists the (at least[1]) 29 members willing to help with activities:

James Appleton
Bill Barton
Martin Cook
Pete & Nicky Richards
Alan Smith
Paul Whiting
Mike Whybray
Dave Robinson
Tina Hammond
John Wainwright
Michael Norris
Daryl Cliffe
Jennie Wood
Michael O'Mahony
Iain & Michelle Monteath
Matthew Leeks
Martin Richmond-Hardy
David Murton
Andrew Gibbs
Ned Cartwright
Steve Cates
Leon Politowicz
Ian Hastie
Alexander Sinclair
Raymond Hooper
Suzanne Parrott
Lloyd Hughes
Simon Meadowcroft
Jeremy Startup

Willing to organise activities

Bill Barton
Pete & Nicky Richards
Alan Smith
Paul Whiting
Mike Whybray
David Murton
Andrew Gibbs

[1] At least one current helper either didn't tick this box or gave a nil return.

Author's comments

I will be contacting members who have asked for help, advice or further information. Meanwhile, if you have any queries you can always post these on our Yahoo group or Facebook page (see page 4). NB you don't need a Yahoo email address to use the Yahoo group, which is a closed group for OASI members only. Contact Pete Richards for details and he can send you an invitation to join.

Thank you to all members who completed a form. This will be helpful in planning meetings, lectures, workshops and activities.

Now the bad news: OASI News printing

We print 50 copies of OASI News every month but our printer has told us that this will be the last issue they can print. We have been charged a very competitive fee for their excellent work.

I have investigated other printers and the charges would more than double, making each copy cost the Society at least £2 including postage. In view of this situation we are considering stopping the print version, with a paper copy available at Newbourne and the Observatory.

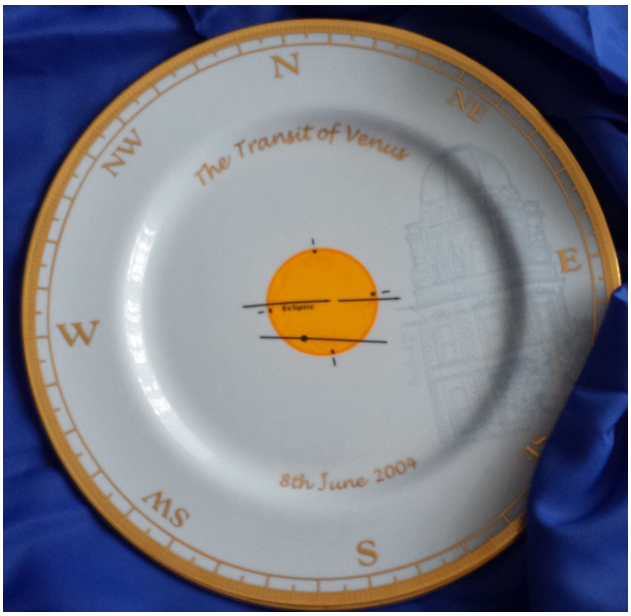
If you do know of a cheap printing service, please let me know.

If you have access to the Internet, please consider downloading and printing your own copy and let me or the membership secretary (Martin Cook) know if you no longer wish to receive a paper copy.

Thank you.

Martin Richmond-Hardy (Editor)

The Ken Goward Collection



The limited edition designer plate made of fine English bone china that Ken Goward commissioned from Caz Ceramics in Norfolk to commemorate the (very successful) viewing of the Transit of Venus from Orwell Park Observatory on 8 June 2008.

Only 50 plates were made and Lorraine would like £50. Beautifully presented in a sturdy white cardboard box, the 26.5 cm/10.5 inch diameter plate sits on a sea of blue material to display or safeguard or display it well.

Lorraine wishes me to be the intermediary so if you are interested in adding this to your collection please contact me **Tina Hammond on tinah1@talktalk.net** or call me on 07825 699 539.

OASI 1967 – 2017

50th Anniversary Convention, 29 July 2017

On Saturday 29 July 2017, we will celebrate the 50th anniversary of OASI with an astronomy convention. The venue is the Waterfront Building, University of Suffolk. There will be lectures by prominent astronomers, displays by astronomy societies and trade stands.

Venue: The Waterfront Building is an ideal venue in a central location on the popular waterfront area of Ipswich. It boasts large lecture theatres together with abundant exhibition space on two levels. There is a café on site and a plentiful selection of eateries and bars nearby. Green marker.

Car Parking: Car parking is available at £4.50 for the day at postcode IP3 0AQ, less than five minutes walk from the venue. Map on web site. Many other car parks are available in town: see Parkopedia.

Accommodation: Many hotel chains are nearby, with a range of prices to suit all pockets.

Tickets: Entrance to the convention (displays and trade stands) will be free. Tickets for the lectures will be on sale in advance and at the door.

Further details will be advised on our website oasi.org.uk

Speakers

Dr Allan Chapman, FRAS, of Wadham College, Oxford, is an accomplished speaker, TV presenter and author. He is a founding member and president of the Society for the History of Astronomy and Honorary President of OASI.

Nick James has been a member of the BAA from the age of 12. He was papers secretary for many years and is currently Director of the Comet Section.

Nik Szymanek has been the premier UK astro-imager for over two decades. He often collaborates with professional astronomers and his work frequently appears in the pages of astronomy magazines.

Dr John Mason is former President of the BAA and currently Director of the Meteor Section and Public Relations Officer. He has led trips all over the world to observe solar eclipses and aurorae.

Dr Nick Hewitt is a trustee of the BAA, former Director of the Deep Sky Section and President. He is a keen eclipse chaser and observer of the deep sky, Mars and active galactic nuclei.

Programme

09:00 – 18:00	Displays area (foyer)
09:30 – 10:45	Nick James
11:00 – 12:30	Nik Szymanek
13:00 – 14:15	Dr John Mason MBE
14:30 – 15:45	Dr Nick Hewitt
16:00 – 17:30	Dr Allan Chapman

Trade Stands

The Widescreen Centre

Sneezums, Bury St Edmunds

Space Rocks UK

Display Stands

Athenaeum Astronomy Society

Breckland Astronomical Society

DASH Astro

LYRA Lowestoft and Yarmouth Regional Astronomers

British Astronomical Association

Commission for Dark Skies

Kesgrave High School Space Club

Geo Suffolk

Comet Watch, Neil Norman FRAS

The Whale galaxy, NGC 4631, with 4727 and 4656

David Murton

From early Sunday morning (19 Feb). In Canes Venatici, The Whale galaxy NGC 4631 with its satellite galaxy NGC 4727. Below it Is NGC 4656 the Hockey stick galaxy which us a barred spiral that had been distorted by its interaction with NGC 4631.

They are 30 million light years away and magnitude 9.8 & 11.0 respectively. The colours are natural and haven't been altered!

8x480 seconds at iso400. Skywatcher 190MN telescope and canon 60Da camera. Must get a bit more time on it to improve the resolution.

50th Anniversary Convention Poster