



OASI News

The newsletter of the Orwell Astronomical Society



03 September 2016. The Sun in H α light. Coronado PST with Altair GPCAM v2 IMX224 camera.

Photo David Murton,

Trustees: **Mr Roy Adams** **Mr David Brown** **Mr David Payne**
Honorary President: **Dr Allan Chapman D.Phil MA FRAS**

Some recent Milky Way pictures

David Murton



Saxstead Mill

The Froize



Contents

Cover picture: The Sun in H α light	1
Inside cover: Some recent Milky Way pictures	2
Society Contact details	4
Access into the School Grounds and Observatory Tower	4
Articles for OASI News	4
Reproducing articles from OASI News	5
Committee 2016	5
Society Notices	5
OASI and BAA Events	6
Public Solar & Star Parties organised by OASI in 2016	8
Other Star Parties that OASI members may be attending.....	8
Newbourne Observing Group	8
Newbourne Observation Group Stargazer's guide	8
Small Telescope Observing Nights (STONs)	8
Astronomy Workshops	9
Lecture Meetings	9
DASH Astro Events – 2016	9
Rockets 13 October 2016 - 19:30-21:00	11
The 2016 OASI Christmas Meal.....	11
The Night Sky in October.....	12
Moon	12
Sun, Moon and planets	12
Occultations during October 2016	13
Paul's Astronomy Podcast for October	13
David's Radio Broadcast	13
Bill's Radio Broadcast	14
Visible ISS passes $\geq 15^\circ$ max altitude	14
Iridium flares	15
Meteor Showers	15
OASI Member of the Year Competition	15
OASI Library	16
Short synopsis of the author of one of our 100 year-old books.	16
Binocular observation	17
Backyard Cosmology by Brian Ventrudo	17
Solar observing at Alnesbourne Priory on 29 August	18
The 11" Celestron telescope	19
Social Media	20
Astronomy is Looking Up	20
Observations of Grazing Lunar Occultations.....	21
The Mills Observatory, Dundee	21

Society Contact details

Observatory (meeting nights only)
07967 519249

contributors.

Email queries: info@oasi.org.uk

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

Twitter: @OASlpswich

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

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, rtf, 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](http://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

If you plan to reproduce an article exactly as per OASI News then please contact the [Editor](#) – otherwise, as a matter of courtesy, please seek permission from and credit the original source/author. You may not reproduce articles for profit or other commercial purpose.

Committee 2016

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 Wilshire	Librarian

Society Notices

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.

Next Committee Meeting

Tuesday 18 October 2016, location TBA, starting 8.00pm.

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.

Welcome New Members

Simon Meadowcroft

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
Monday 10 October From 19:00	Newbourne Village Hall	Avtar Nagra nog@oasi.org.uk	Newbourne Observing Group
Tuesday 4 October	Orwell Park Observatory	Paul Whiting treasurer@oasi.org.uk	Observatory visit. Booking essential.
Saturday 08 October	Nowton Park, Bury St Edmunds	David Murton chairman@oasi.org.uk	Public access event. Star party to mark International Observe The Moon Night . Book a place via the West Suffolk website .
Thursday 13 Oct	University of Cambridge	See page 11	The Falcon Rocket System
Friday 14 October 20:00	Methodist Church Hall Black Horse Lane, Ipswich	Pete Richards lectures@oasi.org.uk	Lecture Meeting. Roger Pickard (Director of Variable Star Section of the BAA), <i>Why Observe Variable Stars?</i>
Saturday 15 October	Chichester	https://britastro.org	BAA Back to Basics Workshop
Tuesday 18 October 20:00	TBA	Roy Gooding	Committee meeting
Friday 21 October 23:30	TBA	James Appleton info@oasi.org.uk	Field trip to observe graze of 20 Gem or 21 Gem. More info .
Wednesday 26 Oct, 17:30 – 20:00	Burlington House, LONDON W1J 0DU	https://britastro.org	BAA Annual General Meeting
Friday 28 Oct – Sunday 30 Oct	Haw Wood Farm Caravan Park, Hinton, Saxmundham. IP17 3QT	www.hawwoodfarm.co.uk	Haw Wood Star Party www.brecklandastro.org.uk/bas-star-parties/
Monday 31 October From 19:00	Newbourne Village Hall	Avtar Nagra nog@oasi.org.uk	Newbourne Observing Group Workshop on the Millennium Telescope

Date and Time	Location	Contact	Event
Friday 4 November	Felixstowe Golf Club	David Murton chairman@oasi.org.uk	Meal + observing
Tuesday 8 November	Orwell Park Observatory	Paul Whiting treasurer@oasi.org.uk	Observatory visit. Booking essential.
Friday 11 November	Methodist Church Hall Black Horse Lane, Ipswich	Pete Richards lectures@oasi.org.uk	Lecture Meting: Steve Hubbard & Malcolm Brown <i>"Aliens – Are they out there?"</i>
Monday 14 November From 19:00	Newbourne Village Hall	Avtar Nagra nog@oasi.org.uk	Newbourne Observing Group
Saturday 19 Nov	Cedarwood School, Kesgrave	David Murton chairman@oasi.org.uk	Public Observing
Monday 28 November From 19:00	Newbourne Village Hall	Avtar Nagra nog@oasi.org.uk	Newbourne Observing Group
Tuesday 13 December 20:00	Orwell Park Observatory	Paul Whiting treasurer@oasi.org.uk	Observatory visit. Booking essential.
Monday 12 December From 19:00	Newbourne Village Hall	Avtar Nagra nog@oasi.org.uk	Newbourne Observing Group
Wednesday 14 Dec	The Newbourne Fox.	Roy Gooding secretary@oasi.org.uk	Christmas Meal. See page 11
Monday 19 December From 19:00	Newbourne Village Hall	Avtar Nagra nog@oasi.org.uk	Newbourne Observing Group Christmas event?
Monday 22 December 06:36	TBA	James Appleton info@oasi.org.uk	Field trip to observe graze of Hipparcos 63099. More info.
2017			
Tuesday 10 January 20:00	Orwell Park Observatory	Paul Whiting treasurer@oasi.org.uk	Observatory visit. Booking essential.
Tuesday 7 February 20:00	Orwell Park Observatory	Paul Whiting treasurer@oasi.org.uk	Observatory visit. Booking essential.
Tuesday 14 March 20:00	Orwell Park Observatory	Paul Whiting treasurer@oasi.org.uk	Observatory visit. Booking essential.
Tuesday 11 April 20:00	Orwell Park Observatory	Paul Whiting treasurer@oasi.org.uk	Observatory visit. Booking essential.
Saturday 29 July	UCS, Ipswich	David Murton chairman@oasi.org.uk	OASI 50th Anniversary
21 August	USA	www.greatameric aneclipse.com	Total solar eclipse

Public Solar & Star Parties organised by OASI in 2016

Nowton Park Star Party – Saturday 8 October

<https://www.whatsonwestsuffolk.co.uk/whats-on/event/2794/the-nowton-park-star-party>

International Observe the Moon night (InOMN) is an annual worldwide public event that encourages observation, appreciation, and understanding of our Moon and its connection to NASA planetary science and exploration.

The moon will be waxing gibbous on the night and become a Supermoon on 16 October.

This event is sold out so we need lots of scopes and helpers, please!

Other Star Parties that OASI members may be attending

Kelling Heath Star Party – 30 Sept – 2 Oct

See <http://starparty.las-astro.org.uk/index.php> for the Autumn Equinox Sky Camp.

Haw Wood Star Party Friday – 28–31 October

Haw Wood is a [Dark Sky Discovery](#) site. Naked eye visibility is magnitude 5.73; with averted vision, 5.99; best SQM reading 21.75.

[Haw Wood Farm](#) Caravans and Camping Hinton
Saxmundham IP17 3QT

David Murton plans to take the Millennium Telescope and then do a workshop at NOG 31 Oct.

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 this month!).

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.

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 2016

10(S), 31(W) Oct 14(S) & 28 Nov 12(S)

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.

Small Telescope Observing Nights (STONs)

Contact: Paddy O'Sullivan and Dave Robinson Email: ston@oasi.org.uk

These evenings have not happened lately and have been removed from the calendar.

Individuals or groups can still make arrangements via OASI email for one off access to the observatory as required.

Astronomy Workshops

Contact Mike Whybray

Location: Newbourne Village Hall IP12 4NP

Doors open at 7:00pm.

Workshops start at 8:00pm

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 – something not possible at the previous venue, Nacton village hall.

31 Oct: Mike Whybray will organise a workshop at Newbourne on assembly and use of the Millennium Telescope.

TBA Andy Gibbs: The Society's Atik Infinity CCD camera

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. There is also the spiral car park by the New Wolsey theatre.

Friday 14 October: Roger Pickard "Why observe variable stars?"

Roger is director of the variable stars section of the BAA.

November 11: Steve Hubbard & Malcolm Brown "Aliens – Are they out there?"

DASH Astro Events – 2016

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

Observing sessions:

Nights: 1 & 29 Oct, 26 Nov



LOWESTOFT AND YARMOUTH REGIONAL ASTRONOMERS



NEW MEMBERS
WELCOME

Invite you to a presentation on
**Looking through the
Radio Window**

by

Prof. Elias Brinks
of the Centre for Astrophysics Research
at the University of Hertfordshire

TUESDAY 11th October 2016

DOORS OPEN 7.00 PM FOR 7.30 PM START

Non Member Admission fee £2:00

**At Parkhill Hotel – Coach House Room
Parkhill – B1375**

NR32 5DQ

**(Just outside Oulton Village on the Oulton Broad –
Gt. Yarmouth road.)**



**If the weather is clear
After the main meeting
We could try some
Observing from the
Barn Car Park.**



ALL ENQUIRIES TO
For information Email : info@lyra-astro.co.uk
Why not visit our website at : www.lyra-astro.co.uk

Rockets 13 October 2016 - 19:30-21:00

For those of you who are interested in rocketry, the IET has a lecture in Cambridge (open to non-members).

The talk will cover various rocket projects, through a history of Falcon. From the initial start as an amateur rocket project, through the BLOODHOUND SSC land speed record project and finally a summary of current developments and exciting new technologies, which are being tested at our Westcott facility.

Speaker Daniel Jubb, Co-Founder of the Falcon Rocket Project

Details <http://talks.cam.ac.uk/talk/index/66881>

Register [The Falcon Rocket System and the Development of Rockets for the Bloodhound Project](#)

The 2016 OASI Christmas Meal

Venue: The Fox Inn, Newbourne www.debeninns.co.uk/fox/

Date: Wednesday 14th December

Time: 20:00

Deposit £5 **Balance:** £14:95

Starters

- Pinney's Of Orford Smoked Mackerel & Roasted Beetroot Salad With horseradish dressing
- Roast Pear, Walnut & Stilton Salad with parsnip crisp & cranberry sauce
- Cream Of Winter Vegetable Soup with 'Woodbridge Cake Shop' bread
- Tempura King Prawns with sweet chilli sauce

Main

- Roast Norfolk Turkey with Chestnut stuffing, roast potatoes, 'Proctors' pigs in blankets and gravy
- Fillet Of Cod served with a pesto mash, confit of cherry tomatoes & peppers
- Venison & Wild Mushroom Burger with smoked cheddar, pancetta, served with chips & onion marmalade
- Nut Roast Wellington, served with roast potatoes and a red wine gravy
- Slow Roasted Pork Belly, served with bubble & squeak, creamed celeriac & an Aspal Cyder gravy

Sweet

- Christmas Pudding ** From The Ultimate Plum Pudding company served with a brandy sauce
- Lemon Sponge Pudding
- Chocolate Brownie with peanut butter ice cream
- East Anglian Cheeses with grapes, chutney & oat cakes

**Indicates this dish is Gluten free or a Gluten free alternative is available

Please contact Roy Gooding ASAP with your menu choices and deposit.

I would like to complete all orders and deposit by the beginning of November

secretary@oasi.org.uk

L 01473 462977

M 07719 621162



The Night Sky in October

Martin RH

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

Other than for occultations, times are in BST (UTC+1). GMT (=UTC) returns at 2am 30th Oct.

NB The times listed by heavens-above.com for 31 Oct are UTC

Moon

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

New Moon	1st Quarter	Full Moon	Last Quarter
01 Oct 01:11	09 Oct 05:33	16 Oct 05:23	22 Oct 20:14
30 Oct 17:38			

Sun, Moon and planets

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

Object	Date	Rise	Set	Mag.	Notes
Sun	1	06:57	18:32		
	31	06:49	16:28		
Moon	1	07:10	18:58		
	31	07:11	17:17		
Mercury	1	05:16	18:07	-0.6	Superior conjunction 2016-Oct-27
	31	07:06	16:27	-0.7	
Venus	1	09:59	19:20	-3.8	Aphelion 2016-Oct-31
	31	10:33	17:50	-3.8	
Mars	1	14:57	21:50	0.1	Perihelion 2016-Oct-29
	31	13:11	20:43	0.4	
Jupiter	1	06:36	18:26	-1.5	
	31	04:14	15:39	-1.5	
Saturn	1	12:49	20:56	1.3	
	31	10:05	18:06	1.4	
Uranus	1	18:54	08:22	5.7	Opposition 2016-Oct-15
	31	15:54	05:17	5.7	
Neptune	1	17:43	04:15	7.8	
	31	14:45	01:14	7.9	

Occultations during October 2016

James Appleton

The table lists occultations during the month, of stars to magnitude 5.0, where the circumstances are favourable. 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** not BST.

Date	Time (UT)	D/R	Lunar Phase	Sun Alt(°)	Star Alt(°)	Mag	Star
08 Oct	19:44:41	D	0.46+	-23	13	6.9	Hip 92266
10 Oct	18:25:43	D	0.66+	-12	21	7.2	ZC 2997
10 Oct	20:18:12	D	0.66+	-29	20	6.2	ZC 3005
11 Oct	19:25:36	D	0.76+	-22	24	7.1	ZC 3142
12 Oct	20:03:23	D	0.85+	-27	27	7.2	ZC 3286
18 Oct	23:12:05	D	0.88-	-48	38	3.7	Hyadum I
19 Oct	00:14:52	R		-47	46		
19 Oct	03:37:30	D	0.87-	-27	52	3.8	theta 1 Tau
	04:46:59	R		-16	45		
19 Oct	03:42:40	D	0.87-	-26	51	3.4	theta 2 Tau
	04:43:28	R		-17	46		
21 Oct	04:56:49	D	0.67-	-15	55	6.3	21 Gem
	05:07:17	R		-14	55		
25 Oct	02:35:10	D	0.26-	-37	15	4.4	31 Leo
	03:36:10	R		-28	24		
26 Oct	03:20:31	R	0.18-	-31	12	5.9	56 Leo
26 Oct	04:59:18	D	0.17-	-16	26	5.0	59 Leo

On 21 October at 05:02, there are near simultaneous southern limit grazes of the magnitude 6.9 and 6.3 stars 20 Gem and 21 Gem respectively. The tracks are apart by a distance of approximately 37.5 km. Details can be found on the OASI website:

http://www.oasi.org.uk/Occs/Occ_summary_2016.php.

An observing trip will be organised if weather conditions are favourable: details will be provided via the OASI email list.

Paul's Astronomy Podcast for October

Paul Whiting FRAS Podcast, October 2016 www.oasi.org.uk/2016_10_pod.mp3

David's Radio Broadcast

Now on 1st Tuesday of the month, 1.40pm on the Lesley Dolphin show on BBC Radio Suffolk.

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. <http://www.icrfm.com>

Visible ISS passes $\geq 15^\circ$ max altitude

Martin RH

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

Times are BST. Predictions are approximate (17 Sept) due to craft adjustments. Check the day before.

Date	Mag	Start			Highest point			End		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
01 Oct	-2.3	20:06:16	10°	SSW	20:09:08	29°	SSE	20:09:08	29°	SSE
02 Oct	-1.7	19:14:40	10°	SSW	19:17:08	20°	SE	19:19:13	12°	E
02 Oct	-1.9	20:49:58	10°	WSW	20:51:53	32°	SW	20:51:53	32°	SW
03 Oct	-3	19:57:54	10°	SW	20:01:03	46°	SSE	20:01:51	37°	ESE
04 Oct	-2.4	19:05:57	10°	SW	19:08:56	33°	SSE	19:11:44	11°	E
04 Oct	-2.5	20:41:55	10°	WSW	20:44:23	47°	WSW	20:44:23	47°	WSW
05 Oct	-3.3	19:49:44	10°	WSW	19:52:59	68°	SSE	19:54:12	34°	E
05 Oct	-0.3	21:26:09	10°	W	21:26:51	15°	W	21:26:51	15°	W
06 Oct	-3	18:57:36	10°	WSW	19:00:46	52°	SSE	19:03:57	10°	E
06 Oct	-2.8	20:33:54	10°	W	20:36:37	58°	W	20:36:37	58°	W
07 Oct	-3.4	19:41:38	10°	W	19:44:55	83°	S	19:46:20	31°	E
07 Oct	-0.5	21:18:06	10°	W	21:18:59	17°	W	21:18:59	17°	W
08 Oct	-3.3	18:49:24	10°	WSW	18:52:39	73°	SSE	18:55:55	10°	E
08 Oct	-3	20:25:50	10°	W	20:28:41	63°	WSW	20:28:41	63°	WSW
09 Oct	-3.4	19:33:32	10°	W	19:36:49	86°	S	19:38:22	29°	E
09 Oct	-0.5	21:10:01	10°	W	21:11:01	18°	W	21:11:01	18°	W
10 Oct	-3	20:17:43	10°	W	20:20:42	58°	SW	20:20:42	58°	SW
11 Oct	-3.3	19:25:24	10°	W	19:28:40	76°	S	19:30:23	25°	ESE
11 Oct	-0.6	21:02:00	10°	W	21:03:02	17°	W	21:03:02	17°	W
12 Oct	-2.5	20:09:35	10°	W	20:12:40	40°	SSW	20:12:45	40°	SSW
13 Oct	-2.9	19:17:12	10°	W	19:20:25	56°	SSW	19:22:31	19°	SE
13 Oct	-0.4	20:54:13	10°	W	20:55:10	14°	WSW	20:55:10	14°	WSW
14 Oct	-1.6	20:01:31	10°	W	20:04:16	25°	SSW	20:04:58	23°	S
15 Oct	-2	19:09:01	10°	W	19:12:02	36°	SSW	19:14:51	11°	SE
16 Oct	-0.6	19:53:49	10°	WSW	19:55:41	15°	SW	19:57:29	10°	S
17 Oct	-1.1	19:00:56	10°	W	19:03:32	22°	SSW	19:06:07	10°	SSE

Iridium flares

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

Meteor Showers

Source: BAA Handbook 2016 p97-99

Shower	Limits	Maximum	ZHR at Max	Notes
Piscids	Sept – Oct	Sept 8	10	A multiple-radiant ecliptic complex with low rates
		Sept 20	5	
		Oct 13	?	
Orionids	Oct 16–30	Oct 21–24	25	Fast meteors, many with persistent trains. Flat maximum, with several sub-peaks. Good in 2006. Quite favourable

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
- Winner gets a free membership for the following 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

And we're off - points this month:

Alan Smith	6
Andy Gibbs	10
Bill Barton	25
Mike Nicholls	20
Mike Norris	10
Mike O'Mahoney	3
Nicky Richards	10

It would be nice to see some new names in the 2016–17 list.

Don't be shy.

Come and help at one of our outreach events and earn 10 points.

The winner receives free membership for a year.

I'm also keeping a tally of committee members' points this year. They do a great job and much work behind the scenes. Please support them.

Martin RH

OASI Library

Andy Willshire

Short synopsis of the author of one of our 100 year-old books.

What I have found in looking through our aged books is that the authors were in the main quite brilliant in the spheres they were working in. Today we have over a hundred years of scientific advancement from when these authors were around, and so in order to consolidate ideas, they had to perform the experiments, working from scratch with just a basic premise. This author is just another of these:

Professor George Forbes was born at 3 Park Place in Edinburgh on the 5th April 1849, and died on 22 October 1936. His father was Professor James David Forbes, who was the Principal of St Andrews University. The University of St Andrews and St Catherine's College, Cambridge were two educational centres that completed his education.

In his early twenties he was to be found in Hawaii where he led a British party observing the Transit of Venus. He left Hawaii and made his way to Peking and then via the Gobi desert to St Petersburg, arriving eventually back in Scotland in 1875. It took him 25 years to write this overland journey into a booklet. At this time very few people had attempted this journey, let alone a twenty four year old. In 1877 Forbes was to be found as the British war correspondent for the Times newspaper, with the Russian army in the Russo-Turkish war. He was permitted to perform this job, because of the contacts he had made on his previous journey. He was given the Order of St George by the Russians for his work.

He moved to London in 1880 and spent the next twenty years working on electrical power engineering schemes. These include the electrification of the London Underground, and how to power the City and South London railway.

From 1891 to 1895 Forbes performed some of his most important work in being the consulting engineer on the Niagara Falls hydroelectric project. His expertise in designing hydroelectric schemes was used in many countries as diverse as India (1893), South Africa (1895) and New Zealand (1896).

In 1906 he moved to Pitlochry and built a house he named the 'shed', a wooden structure with an observatory on the upper floor. Astronomy being his first love, he delivered the David Elder lectures on Astronomy at the Royal Technical College, Glasgow from 1906 to 1930. He also predicted that a trans Neptunian planet (Pluto) existed.

He was also an energetic inventor and one of his ideas was to use carbon for the brushes in electric motors instead of wire or gauze. In 1885 he took out a patent on this idea. During World War I, he designed a method of signalling between submarines using converging beams of light.

He died in an accident at his home in Worthing on 22 October 1936.

His book we have in the OASI library is the **'History of Astronomy'** and was published in 1909.

Reference:

[https://en.wikipedia.org/wiki/George_Forbes_\(scientist\)](https://en.wikipedia.org/wiki/George_Forbes_(scientist))

The book is also available online in various formats from www.gutenberg.org/ebooks/8172

Read it online at www.gutenberg.org/files/8172/8172-h/8172-h.htm

or download in [Plain Text UTF-8](#), [Kindle](#) and [ePub](#) formats.

Binocular observation

Mike O'Mahoney

At Bill's excellent talk at the 12 Sept workshop on observing using binoculars, a question was raised about the difference in image quality obtained between observing an object using a telescope (monocular) and binoculars of the same objective diameter. A comment was made (by John W I think) that a factor of the square root of 2 (≈ 1.4) was involved. This suggested to me that the improvement was due to an increased signal to noise ratio (SNR), as in the statistics a factor of 2 increase in photon numbers gives a square root of 2 (≈ 1.4) improvement in SNR. Thus the binocular view might be considered as equivalent to stacking 2 image frames in astrophotography..

I couldn't find much about this topic on the web, but what I did find suggested that this might be the case and the improved SNR gives enhanced contrast in the image and also improves visual acuity due to the cancellation of random neural noise. The suggestion to test this theory is to find a double star that can just be split using binocular vision, then to look through with one eye at a time to find that the split cannot be seen.

The double star Albireo (in Cygnus) has a separation of 35 ", monocular with an objective of 50 mm would, using the Dawes Limit of $116/D$ (where D is objective in mm), should be able to split 24 " or with a 32 mm objective 36 ". So could be interesting to see if a difference between monocular and binocular can be noted.

So a possible conclusion is that, for the same objective diameter as a telescope, the improved contrast performance of binoculars should make them better for observing faint fuzzy grey objects. A caveat is that passage through binocular prisms will cause some photon loss compared with the simpler optics of a telescope.

A very interesting workshop.

Mike Norris adds:

Thank you, Bill, for raising this issue at your work shop and to Mike for clarifying the discussion. Perhaps I might add some further observations from another perspective.

When you use a monocular there is a need to normally close one eye. This has an immediate detrimental effect on the performance of the viewing eye. I find for instance that I can view through supported binoculars for much longer periods than I can at a telescope eyepiece. I have tried using an eyepatch over the non viewing eye and keeping both eyes open and found this significantly improved comfort. I wonder why this practice is not more widespread but then you do look a bit daft which probably explains this! So up to this point there seems to be a good case for using a binoviewer. But as always it is not that simple. Manufacturers acknowledge that splitting the light paths means each eye will receive less light but there are other factors. Binoviewers are a heavy chunk that can upset the balance of the scope and they can cause the focuser to slip. They are therefore better suited to larger scopes but newtonians often lack sufficient back focus without a barlow. More glass for your photons to pass through. Changing eyepieces means of course changing two eyepieces never easy on a cold night and if there is more than one of you observing it means adjusting the bino to suit each person. If you can cope with these issues the view can be an improvement on a monocular eyepiece its a personal choice as to whether it is all worth it.

Backyard Cosmology by Brian Ventrudo

A YouTube video for those cloudy nights

<https://www.youtube.com/watch?v=8fl5SpqYvIw>

Solar observing at Alnesbourne Priory on 29 August

Yes, we had Sun and sunspots! We enjoyed great weather and many visitors. The management of the Priory was very complimentary, grateful for the entertainment and education that we provided, and has requested that we return to run an evening observing event. Thanks are due to all OASI members who supported the event.



Photos by Martin R-H

The 11" Celestron telescope

We are very grateful to Bruce R. Bloom for the donation of this 1970, 11" Celestron reflecting telescope with all the necessary accessories, along with the astronomy books listed last month.



Social Media

Twitter

@OASIpSwich now has 433 followers and is following 352 accounts.

It's a useful and concise source of astronomy, cosmology, science and space-related news.

We also use it to announce OASI events and the availability of this newsletter.

There's a feed of our retweets on the home page of the OASI web site.

Facebook

OASI has its own Facebook page – Orwell Astronomical – and there are also other astronomy groups such as

- East Anglian Astrophotography
- Secondhand Astronomy Equipment UK
- Astronomy

Yahoo group

We have a Yahoo group which is useful to post questions and get answers (sometimes several!).

Joining is not complicated and you can be sent an invitation. Rather than individual messages, you can elect to receive a daily digest or only special messages sent by one of the moderators.

Mailchimp

Getting timely information to all members is difficult when not everyone wants to join social media groups and only our membership secretary (Martin Cook) has the full list of members and their email addresses (if any). We have tried using <http://mailchimp.com> for which our membership secretary maintains the distribution list.

OASI News

You are here! But if you need the latest news or wish to know if an event has been rescheduled or cancelled - check ...

The OASI Web site www.oasi.org.uk/

James Appleton does a sterling job keeping the web site up to date. Do pay it a visit - there's the calendar of events and you can download the OASI News from there (the latest issue is available from the 1st of the month or sooner). There are guides for beginners, history and lots of pictures.

Astronomy is Looking Up

Paul Whiting

Ipswich Institute are once again running an astronomy course starting in October. The course will be held in the Admiral's House, 13 Tower Street, Ipswich. Further details below and booking at 15 Tavern Street, Ipswich.

Mondays 18.30 - 20.30

With astronomy featuring more and more on our TV screens, have you ever wondered what it is all about? This introductory course will introduce the basics of a number of different facets of this interesting science and hobby. You do not need a telescope to take part (although you will probably want to get one afterwards!). You just need an enquiring mind.

- Course Tutor: Paul Whiting
- Course Duration: 10 weeks
- Course dates: 03 Oct – 05 Dec
- Half Term: 07 Nov
- Price: £71

- Ipswich Institute Members Price: £47
- Concessions*: £52

*The concessionary rate is available to anyone in receipt of means-tested benefits.

Observations of Grazing Lunar Occultations

By Alan Smith and James Appleton

The 4th of this year's grazing occultations will occur at about 05:00 UT on 21/10/16 (a Friday morning) The track is conveniently placed close to Ipswich, the altitude of the moon is favourable, it is a 'south limb' apparition, and given that the star is a double, the event could be spectacular. The time of the event is however a bit anti social !

A brief explanation, by James Appleton, of a grazing occultation follows:

A lunar occultation occurs when the Moon appears to pass in front of a star, hiding it from view. If the moon appears to pass centrally in front of the star, it can obscure the star for more than an hour. However, generally the moon's path will be such that the centre of the visible disk passes to the north or south of the star, in which case the star is obscured for a shorter period. In the limit, the north or south polar limb of the moon briefly obscures the star – this case is termed a grazing lunar occultation, or simply a graze.

During a graze, mountains and valleys on the lunar limb can appear to pass in front of the star, alternately obscuring and revealing it. When this happens, the star can appear to flash on and off. For a graze of any given star, such an effect is visible only along a path across the Earth's surface at most few kilometres wide: this path is referred to as the graze track. Generally, a south polar graze is more spectacular to observe than a north polar graze because the moon's south limb is the more rugged of the two.

Although the lunar limb profile was not known with great accuracy until recently, a Japanese satellite (Kaguya) launched in 2007 has mapped the surface of the moon using lasers. This has given us a detailed (although still incomplete) limb profile.

An observation of a graze establishes a relationship between several quantities: the location of the observer, the position of the moon, the position of the star and the topography of the lunar limb.

A team of observers from OASI (the usual suspects) will attempt to observe this event. If you would like to join us, please be aware that you will need a 'reasonable' telescope capable of handling a fairly high power (*100 ?) magnification.

The graze track can be seen on the OASI web site

http://www.oasi.org.uk/Occs/Occ_summary_2016.php

and you will notice that it passes very close to Ipswich and surrounding villages. We are probably going to observe from a site close to Hoo (near Framlingham), or closer to the coast near Aldeburgh.

If you would like to join us, please contact me to get further details of the 'pre-event' conference call and any other details you might need.

Alan Smith

The Mills Observatory, Dundee

Bill Barton.

The wealth of Dundee, on Scotland's east coast was based on the two "J's" that is to say "Jute and Jam". Jute is a vegetable fibre that can be woven into a coarse cloth suitable for making matting and sacks, and jam refers to the Keiller's Marmalade factory which opened there in 1797, the same firm may also have been the first to commercially produce 'Dundee Cake'. A third "J" was added in 1884 when D. C. Thompson started in newspaper and magazine journalism. From 1938 they produced the *Beano* children's comic.

One of Dundee's more wealthy inhabitants was a John Mills who's factories made linen cloth and spun twine. He had his own private observatory at his home overlooking the city. Being aware of his position in society he campaigned for the provision of parks, libraries and astronomical observatories for the free enjoyment of the public.

He died in 1889. His will contained an unusual clause that an observatory should be erected in Dundee for public education. The money he left was presented to the local council in order that his wish should be fulfilled. But they had no experience in observatory building and so asked the local St. Andrews University for help. They sought assistance from the Observatory at Greenwich. The reply was that observatory working and access by the public was not really compatible. A trust was set up to preserve the capital sum left by Mills and carry the project forward. By the time the First World War broke out plans had been laid for an observatory on the top of a prominent hill called Dundee Law, but further progress was put on hold until the end of hostilities.

Following the war the town needed a memorial in remembrance of its fallen citizens. It was decided that Dundee Law would be the most suitable location for it and the planned observatory would have to be built elsewhere.

By the nineteen-thirties the observatory still only existed on paper and now there was an economic depression to struggle through. It was thought that the solution to both problems might lay in the same area. Getting on and building the observatory would fulfil the provisions of John Mills will and give much needed work to the town. The Astronomer Royal for Scotland was brought in for advice and a site on Balgay Hill was chosen. The observatory finally opened on October 28 1935, 46 years after it benefactor's endowment. The main instrument was an electrically driven equatorially mounted 18 inch aperture Newtonian reflecting telescope made by Grubb-Parsons. The building also housed a lecture room and balcony for viewing the River Tay and the sky. A part time director and a full time caretaker were appointed and a timetable of Monday, Wednesday and Friday public evenings and Tuesday and Thursday for private groups was set up to run through the winter months.

Following the Second World War the nearby St. Andrews University needed a new telescope for its own observatory. On finalising a novel Schmidt-Cassegrain design of 38 inch aperture it was discovered that a very similar instrument was being planned in the United States of America. Thus an unofficial race was on to see who could get theirs working first. The St Andrews team decided to initially produce a half-scale (19 inch) version to ensure that their design was sufficient for the larger instrument. In order to reduce development time they looked around for a mounting suitable to carry this telescope. At the same time the Dundee Council also saw an opportunity to modernise its observatory at very little cost to them as there would be no use for the 19 inch telescope after its concept was proved.

However Schmidt-Cassegrain telescopes are primarily designed for photographic use and this instrument proved somewhat less than ideal for public observation.

The answer to this problem already lay within the university observatory. They had a ten inch aperture refractor that had been used for basic student tuition, but was now very little used. Originally built in 1871 by Cooke of York, it was once owned by Walter Goodacre, president of the British Astronomical Association (BAA), who lived in Four Marks village, near Winchester. It was widely acknowledged within the BAA as "the excellent 10-inch Cooke refractor". As can be expected from this design of instrument it was particularly good for observing lunar and planetary detail of the finest order, an area in which the BAA specialised. Dundee council were initially against the change, but were persuaded by the Astronomer Royal for Scotland that such a change would be advantageous and a mutual loan agreement was undertaken.

The telescope had to have its dew-cap extension removed in order to fit in the 22 ½ foot (7m) diameter dome. Fortunately its builder had included sufficient adjustment to allow the equatorial mounting to work both in southern England and in Scotland. The telescope currently installed is thus around half a century older than the dome which protects it, which, incidentally is one of only two surviving papier-mâché covered ones in the UK. The other being the Godlee in Manchester.

In 1956 a group of friends got together in Dundee and formed what is now known as the Dundee Astronomical Society and this group now runs the observatory on a voluntary basis.



Mills Observatory Dedication Plaque



General view from the south-west



Main Entrance



The ten inch aperture Cooke refractor