



# The Newsletter

of the



## Orwell Astronomical Society (Ipswich)

2013  
JANUARY

Registered charity no. 271313  
[www.oasi.org.uk](http://www.oasi.org.uk)

No 481



GEORGE TOMLINE, D.D. LORD BISHOP OF LINCOLN.

*Engraved by W. Cooper from an original drawing by H. Kneller.*

**Bishop Tomline, grandfather of our man.**

**Picture courtesy of Martin Richmond-Hardy.**

## Society News (Roy Gooding)

### 1 Annual General Meeting 19<sup>th</sup> January 2013

All members are invited to attend the AGM . Start time 20:00 Venue: Methodist Church Hall

### 2 Access into the School Grounds and Observatory Tower

The code for the car park gate, is on the back of your membership card.

Please use the third gate into the school grounds, this is the gate behind the Gym. If the Black door entrance at the base of the observatory tower is locked, you will have to phone someone in the observatory to let you in. My mobile number is [REDACTED] (Roy Gooding) alternatively the Observatory mobile is [REDACTED] during meeting hours.

### 3 Welcome to New members

Mr. Michael Whitelock Mr. Andy Whit-Lock

Mr. Jim Dinley

Mr. Paul Griffiths

Mr. Darron Kerr

### 4 2013 Subscriptions

Subscription are due for this year now. If you have not paid for this year please return the YELLOW form with your cheque, payable to OASI, to Martin Cook

### 5 Events Programme for 2013

This provisional event list will be updated through out the year

Meeting	Venue	Date
AGM	Methodist Church Hall	Saturday 19 <sup>th</sup> January 20:00
Astro Fest	Kensington Conference & Events Centre London	8 <sup>th</sup> and 9 <sup>th</sup> February 09:00 to 18:00
SPA convention	Cambridge Institute of Astronomy	Date?
Society BBQ	Newbourne Village Hall?	TBC
FAS convention	Cambridge Institute of Astronomy	October?
Open Weekend		TBC
Christmas Meal		December

## 6 Out Reach Meetings 2013 Christchurch Park BBC Stargazing

Meeting	Venue	Date
BBC Stargazer	Reg Driver Centre Christchurch Park Bolton Lane entrance	Thursday 10 <sup>th</sup> January 18:00 to 21:00

### BBC Stargazing Thursday 10th January

The BBC will be running a third series of Stargazing programmes this month. On the 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> January. As in previous years, there will be a number of astronomical events across the UK.

Sam Pollard, has asked us to take an active role in showing visitors from the Reg Driver centre up to the observing site. There may not be as many Park Rangers available this year. Last year, we were very busy, so if you do not have a telescope you can still play an important role as a meeter, greeter and guide.

The event will centre around the Reg Driver Centre, starting around 18:00 and go onto about 21:00. Paul Whiting has volunteered to give talk and hold an OASI exhibition in the centre

**Our principle part in the event will be to provide telescopes. If the weather is good with clear skies, we will be using our normal observing site on top of the hill. If the ground conditions are hazardous with snow and ice we will erect our telescopes around the visitors centre. In these conditions it is not advisable to expect the public to have to walk up the hill from the Bolton Lane gate. As many members will be unable get to the park by 18:00, and have there equipment set up. I proposed that we may be able to get up and running by about 19:00 or shortly after. This is the time we would be starting our Out Reach Star Parties.**

## 7 Out Reach Meetings 2013 Christchurch Park

### Winter Star Party

Meeting	Venue	Date
Winter Star Party 1 <sup>st</sup> Option	Christchurch Park Westerfield Road entrance	Saturday 16 <sup>th</sup> February 19:00 to 21:00
Winter Star Party 2 <sup>nd</sup> Option if 1 <sup>st</sup> is cloudy	Christchurch Park Westerfield Road entrance	Saturday 23 <sup>rd</sup> March 19:00 to 21:00
Astronomy in the Park 1 <sup>st</sup> Option	Christchurch Park Westerfield Road entrance	Saturday 18 <sup>th</sup> and Sunday 19 <sup>th</sup> May 11:00 to 16:00
Astronomy in the Park 2 <sup>nd</sup> Option if 1 <sup>st</sup> is cloudy	Christchurch Park Bolton Lane entrance	Saturday 25 <sup>h</sup> and Sunday 26 <sup>th</sup> May 11:00 to 16:00

Note these dates are still provisional.

### Directions

What entrance should we use	Meet at the Westerfield Road entrance at about 18:30. The park ranges will be at the entrance
Set up time.	If you plan to bring a telescope, and arrive at about 18:30. This will give you about 30 minutes to set up.  If you would like to come along just to help, please do so. It may useful to have your membership card to show the Park Rangers. The park gates will be closed at 19:30 and will not be re-opened until the end
Observing Location	On the hill
Start time	19:00 (20:00 for option 3)
End time	21:00 (22:00 for option 3) May be earlier if visitors have all left

If you are able to help either with or without a telescope please meet at the Westerfield Road entrance at 18:30.

**To confirm if the event is on, please give me a call on IP 462977 on the Saturday afternoon.**

## 8 Out Reach Meetings 2013 Chantry Park

### Spring Star Party

#### Directions:

- Enter Chantry Park from the Hadleigh road entrance. It is the drive way to the Sue Rider home.
- This drive dose not have any gates so access is always open
- At the top of the drive take the left hand road. There are about 3 speed humps along here.

At the end of this road, which is about 200 yards long, there is a parking area.

Meeting	Venue	Date
Spring Star Party 1 <sup>st</sup> Option	Chantry Park	Saturday 13 <sup>th</sup> April 20:00 to 22:00
Spring Star Party 2 <sup>nd</sup> option if 1 <sup>st</sup> is cloudy	Chantry Park	Saturday 20 <sup>th</sup> April 20:00 to 22:00

Note these dates are still provisional.

## 9 Out Reach Meetings 2013 Holywells Park

### Autumn Star Party

Richard Sharp ( from the town park ranger group) has recently moved from Chantry Park to Holywells Park. He has asked if we can stage an event in the park. I may wait till the Autumn for this one

## 10 Out Reach Meetings 2013 Minsmere RSPB Reserve

This is a new one. The RSPB have asked to run an astronomy event for them. This is still in the planning stage. They originally asked for a talk, which Paul Whiting is willing to do. I added that we may be also be able to run a star Party for them in the evening. Minsmere has very dark skies, as it is miles from anywhere. The biggest problem may be the distance and members not prepared travel this far. We have never run a public event this far from base.

The date set for this Friday 4<sup>th</sup> October

5

## 11 2013 OASI Committee

If you would like to stand for the committee for 2013 please return this form to Roy Gooding 2 weeks before the the AGM. There about 3 / 4 committee meetings in the year. Every committee member is given a responsibility.

Alternative you may have an idea you wish to peruse , (if you have please contact any one on the committee), but not wish to commit yourself as a committee member. There are many members who play active role in society events without being on the committee.

All that is needed is your name, a proposer and a seconder.

Existing members who wish to remain on the committee for 2013 need not reapply

**Name**

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**Proposer**

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**Seconder**

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### WANTED

5" (130mm) to 6" (150mm) reflector telescope. Equatorial mount / Dobsonian or OTA considered.

Must be in good condition.

David Murton 

# Night Sky (January)

## Moon

<b>1<sup>st</sup> Quarter</b>	<b>Full Moon</b>	<b>3<sup>rd</sup> Quarter</b>	<b>New Moon</b>
<b>5<sup>th</sup></b>	<b>11<sup>th</sup></b>	<b>18<sup>th</sup></b>	<b>27<sup>th</sup></b>

Object	Date			Mag	Notes
		Rise	Set		
Sun	1	08:04	15:54		
	31	07:37	16:41		
Mercury	1	07:32	15:00		Mercury is too near the sun this month to be seen.
	31	08:11	17:26		
Venus	1	06:31	14:25	-3.8	Venus is low down in the pre-dawn sky this month
	31	07:07	15:19		
Mars	1	09:29	17:54	1.2	Mars is very low down in the western sky after sunset
	31	08:22	18:13		
Jupiter	1	13:32	05:38	-2.5	Jupiter is still well placed to observe this month.
	31	11:29	03:33		
Saturn	1	02:45	12:40	0.9	Saturn is visible in the morning sky this month
	31	00:56	10:46		
Uranus	1	11:19	23:37	5.9	Uranus is presently in Pisces. It will be lost in twilight sky by month end.
	31	09:22	21:44		
Neptune	1	10:21	20:25	8.0	Neptune is presently in Aquarius. Like Uranus, it will be lost in the twilight sky by month end
	31	08:25	18:32		

## Meteor Showers

Shower	Maximum	Limits	ZHR
Quadrantids	4 <sup>th</sup> January 06:00	1 <sup>st</sup> to 6 <sup>th</sup> January	80?

## Newbourne Observing Group

We meet at The Newbourne Village Hall, Milln Lane, Newbourne, IP12 4NP  
Start 7pm

### December Meeting

#### CLEAR SKIES & MINCE PIES!

A really great evening. Thanks to all the 18 members who turned up with or without their scopes. We were able to enjoy some excellent observing and when on a couple of occasions a snow shower drove us into the comfortable hall Gerry Pilling gave us an impromptu talk on imaging with a web cam, warmed with a cup of mulled wine. Thanks also to Mike Whybray and Neil Morley for assistance with new members and to Paul Whiting for guiding us around the night sky.



Our programme for next year is:

Monday 14th January - What telescope should I buy?

Monday 11th February- Star Charts

Monday 11th March - Simple Imaging.

If you are new to astronomy or a new member then the N.O.G. evenings are for you. See you in January!



# LUNAR OCCULTATIONS DURING 2013

## INTRODUCTION

During 2013, there are almost 600 lunar occultations potentially observable from East Anglia, although many involve faint stars. On 06 March, the track of a grazing occultation of a magnitude 3.8 star crosses the region, passing 50 km from Orwell Park Observatory. No lunar occultations of planets occur in 2013 visible from East Anglia.

This article summarises the circumstances of the best occultations during the year. It provides details for the location of Orwell Park Observatory; differences will in general be negligible for locations throughout East Anglia.

## OCCULTATION PREDICTIONS

The motion of the Moon through the heavens is constrained to the zodiacal band within  $\pm 6.75^\circ$  of the ecliptic; this zone therefore defines the area within which to search for lunar occultations. I use a suite of computer software to undertake the search. It is based loosely on the algorithm *Occult* in *Astronomy On The Personal Computer*, 2<sup>nd</sup> edition by O. Montenbruck and T. Pfleger, Springer-Verlag, 1994. It models the motion of the Moon and planets using the NASA Jet Propulsion Laboratories' ephemeris DE-405 and takes positions of stars from the Hipparcos, Tycho2, PPM and XZ94F catalogues. (Hipparcos and Tycho2 together account for 99.8% of the stellar positional data; the other catalogues provide enhanced coverage in particular areas of the sky.) The software uses IOTA's electronic Watts charts to calculate timing corrections due to features on the lunar limb.

## OCCULTATIONS OF BRIGHT STARS

Table 1 lists occultation events during the year, of stars down to magnitude 5.0, where the circumstances are favourable. The events should be readily visible in small telescopes or binoculars.

The first two columns of table 1 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 D and/or R 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.

Date	Time (UT)	D / R	Lunar Phase	Sun Alt (°)	Star Alt (°)	Mag	Star
04 Mar	02:33:52	D	0.59-	-35	9	3.9	9 Sco
	03:14:25	R		-30	13		
21 May	20:51:07	D	0.85+	-8	28	4.8	40 Vir
24 May	22:00:24	D	1.00+	-13	15	5.0	45 Lib
11 Sep	20:01:41	D	0.40+	-16	7	4.5	4 Oph
13 Oct	23:07:16	D	0.72+	-46	12	4.5	13 Aqr
22 Nov	00:23:37	D	0.83-	-57	42	3.6	54 Gem
	01:18:39	R		-53	48		
11 Dec	22:17:04	D	0.73+	-56	35	4.3	71 Psc
16 Dec	16:25:29	D	0.99+	-6	6	4.9	104 Tau
17 Dec	06:30:17	D	1.00+	-12	8	4.3	119 Tau

**Table 1. Occultations of stars of magnitude 5.0 or brighter.**

## OCULTATION SEASONS

The Moon's orbit is defined by a range of periodicities, both short and long term. The short term periodicities mean that the Moon's path through the sky follows a pattern whereby it almost repeats itself every month. The longer term periodicities gradually shift the orbit so that no particular pattern of approximate repetition can last more than a few years. This results in so called "occultation seasons", lasting for months or years, during which particular stars are repeatedly occulted, or repeatedly not occulted.

In recent years, occultation seasons have been evident, with repeated occultations of bright stars being forecast for Orwell Park; however, this is not the case in 2013.

## NIGHTS WITH MANY OCULTATION EVENTS

During the year, the Moon traverses some rich star fields. When this happens, a large number of occultations can occur during a single evening. Table 2 lists all evenings throughout the year when the Moon occults more than 10 stars. The large numbers of occultations on 15 April and 07 November are associated with star fields in Taurus and Sagittarius respectively.

Date	No occs	Date	No occs	Date	No occs	Date	No occs
14 Jan	11	18 Jan	11	15 Mar	14	16 Mar	21
14 Apr	15	15 Apr	50 (!)	16 Apr	12	13 May	14
14 May	18	15 May	20	10 Oct	13	11 Oct	12
07 Nov	42 (!)	05 Dec	15	06 Dec	26		

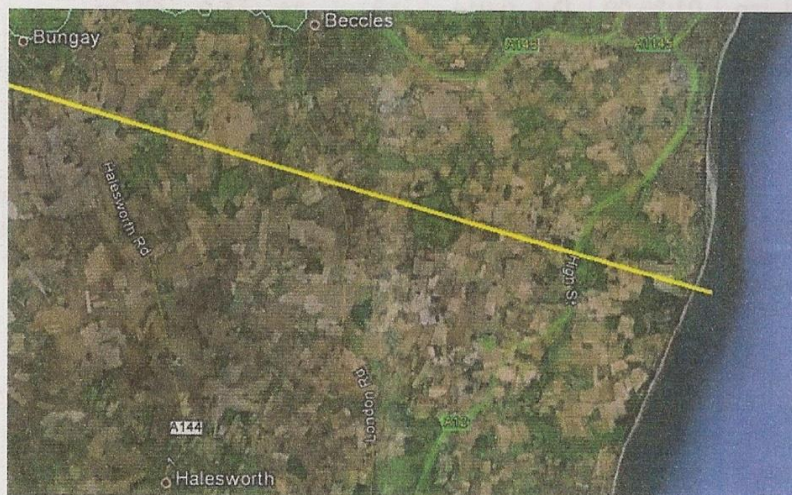
**Table 2. Evenings with more than 10 occultations.**

## GRAZING OCCULTATION

A grazing occultation of the star 13 Sgr crosses East Anglia early in the morning of 06 March 2013. Table 3 summarises the circumstances and figure 1 shows the graze track. At its closest, the track passes 50 km from Orwell Park.

Date	Time (UT)	Lunar Phase	Limb	Sun Alt (°)	Star Alt (°)	Star
06 Mar	05:35	35%-	S	-9	14	13 Sgr, magnitude 3.8

**Table 3. Grazing lunar occultation.**



**Figure 1. Graze track of 13 Sgr.**

Weather permitting, the usual band of dedicated OASI occultation observers will undoubtedly organise an observing trip! Please get in touch if you are interested in participating. A Google Earth plot of the graze track is on the OASI web site <http://www.oasi.org.uk/Occs/Occs.shtml>.

James Appleton

## OCCULTATIONS DURING JANUARY

The table lists lunar occultations which occur during the month under favourable circumstances. The data relates to Orwell Park Observatory, but will be similar at nearby locations.

Date	Time (UT)	D / R	Lunar Phase	Sun Alt (d)	Star Alt (d)	Mag	Star
14 Jan	17:42:02	D	0.11+	-13	19	7.5	Hip 109828
18 Jan	20:34:18	D	0.48+	-39	37	5.5	102 Psc
	21:41:53	R		-48	27		
18 Jan	20:49:22	D	0.48+	-41	35	6.8	ZC 241
21 Jan	23:10:56	D	0.76+	-56	41	5.5	43 Tau
24 Jan	00:04:12	D	0.90+	-57	47	6.0	ZC 888
24 Jan	01:35:09	D	0.91+	-53	34	5.9	57 Ori
25 Jan	22:15:52	D	0.98+	-50	54	5.4	ZC 1141

James Appleton

John Wainwright's 40 cm Meade Lightbridge Dobsonian protected from a brief shower of rain during the Orwell Park open evening on 27 October 2012. Despite the rain, the evening was a great success with 95 visitors attending and enjoying views of Jupiter, M31, double stars and star clusters.



# **The Australian Eclipse - November 14, 2012**

**Paul Whiting** *FRAS*

As always, given the vast distance to Australia to view this eclipse, we packed a bumper holiday around it. Two weeks of getting drenched in Singapore, soaked in Perth and wet along the Observatory highway did not bode well for the eclipse. The weather circulating the continent seemed to be deliberately following us on our venture from west to east coasts. Even crossing the Nullarbor plain for three days by train saw storms either ahead of us or just behind us. So it was with great trepidation that we arrived in Cairns a couple of days before the eclipse only to find it raining. However two days before the eclipse the dawn was virtually cloud free - this eclipse being an immediate post-dawn affair. The day before was a totally different matter, it was really cloudy and rained. So it was very difficult to try to predict where we should go to view the eclipse or indeed to estimate our chances of success.

In the end we decided to stay put at the hotel in Palm Cove just north of Cairns, and walk down to the beach to view. It was an early start, meeting at 4:30 AM to walk down to the beach en masse. Even then there were hundreds of locals lining the spectacular beach overlooking the Pacific and the Great Barrier Reef. Of course it was still dark and Venus was shining out like a beacon above the waves. There was a little cloud but it looked as though we might be successful. However as the sun rose an hour or so later, the clouds

started to line up to blow inland over our heads, just in the line of sight with the Sun. As the sun rose higher getting ever nearer first contact the cloud got thicker, and this continued after first contact. Spirits really dropped as the cloud appeared to get thicker and we really thought that we would not see totality. We tried to make the most of the fleeting glimpses of the partial phase that appeared from time to time from behind the clouds, but the prize seemed out of reach. Just as we had resigned ourselves to our fate, a minor miracle occurred and a gap appeared in the clouds, just large enough to enable us to see the entirety of the total eclipse, with only some wispy high-level cloud passing by. After third contact the cloud returned, but we were still able to see occasional glimpses of the remainder of the eclipse.

I took my usual video of the total phase, but the age of the camera is beginning to show, as well as the batteries. A fully charged battery just lasted the 2 minutes three seconds duration of the eclipse before cutting out just after the diamond ring at third contact. Lucky or what? Next time I will be using my new DSLR camera and will put the 18-year-old hi8 to bed.

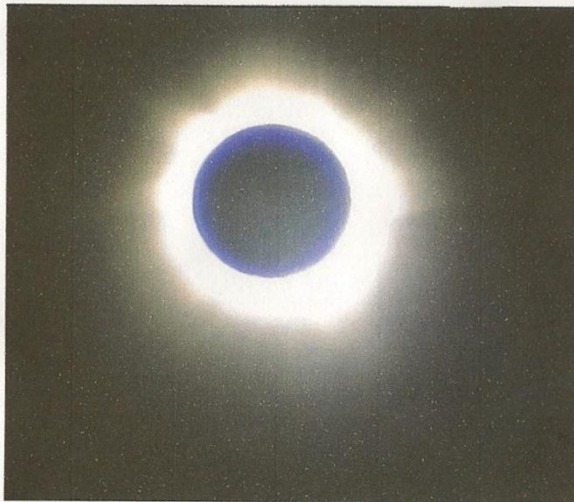
As was expected with an eclipse taking place at the peak of a solar cycle, the corona was flat and regular around the solar disc, and contained much fine magnetic structure.

Another amazing sight was the incredible display of shadow bands following the eclipse. These could be seen rippling along the beach for about 10 seconds immediately after third contact. This is only the second time I've seen shadow bands, and this was a better display than the first time in the Sahara desert during the 2006 eclipse.

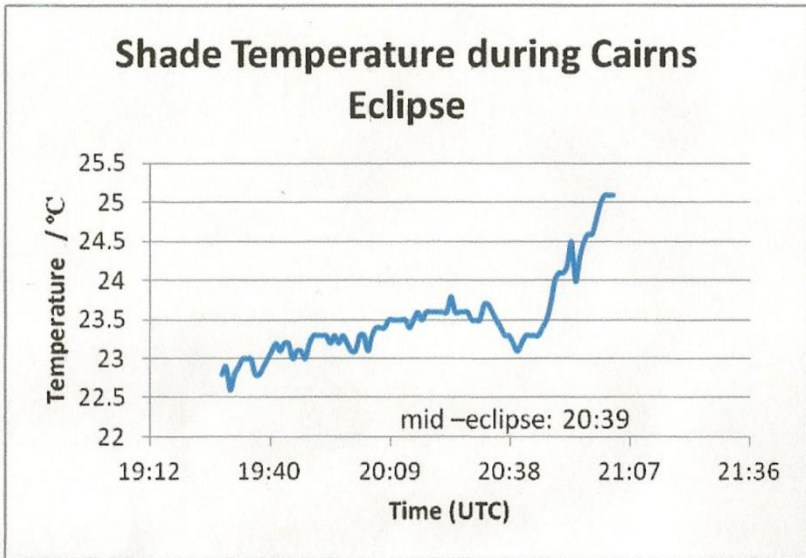
This year I tried a new experiment during the eclipse. I measured the shade temperature from first contact to approaching fourth contact, at one minute intervals. The graph is attached. Cloud cover and a sharp breeze explains the minor variations in temperature, but the upward trend of the daytime warming can be seen, together with the drop in temperature around totality.

The rest of the holiday saw visits to various observatories, from Perth to Sydney as well as professional observatories including Parkes, the AAT at Siding Springs, the Australian radio telescope at Narrabri and the Mount Pleasant Radio Telescope near Hobart.

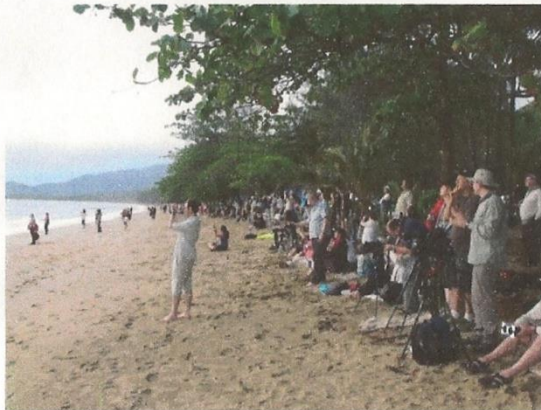
We also found a house up for sale complete with fully fitted Observatory and 14 inch telescope near Coonabarrabran, the so-called astronomical capital of Australia, for a mere AU\$550,000. Any offers?



**Figure 1: The Total Eclipse**



**Figure 2: The Shade Temperature Graph**



**Figure 3: The Observation Site**



## Colonel George Tomline

Following my article on Colonel George Tomline in the December Newsletter, I was contacted by OASI member Martin Richmond-Hardy who said how much he enjoyed reading it as he, like Tomline, hails from Lincolnshire.

Since then, Martin has been very hard at work and uncovered a wealth of Tomline gems, the most interesting of which is his Will, which is reproduced here.

Many thanks for Martin for his hard work.

*Tina Hammond*

### **COLONEL TOMLINE'S WILL**

The Will (dated May 13th, 1889), with a codicil (dated August 2nd) following, of Colonel George Tomline, J.P., D.L., formerly M.P. for Sudbury, afterwards for Shrewsbury, and subsequently for Great Grimsby, late of No. 1, Carlton House-Terrace, of Orwell Park, Ipswich, and of Riby Grove, Lincolnshire, who died on August 16th last, was proved on December 9th by the Rev. Frederick Pretzman and William Joseph Jarrett, the executors, the value of the personal estate amounting to upwards of £353,000.

The Testator bequeaths £5,000 each to the Rev. Frederick Pretzman, Colonel Ronald Lane, Colonel Cecil Lane, Viscount Dungarvan, the Hon. Robert John Lascelles Boyle, and the Hon. FitzAclelm Alfred Wentworth Boyle; £1,000 each to his executor Mr Jarrett, Robert Milnes Newton (police magistrate),

Henry Smith (his agent at Orwell), and William Dodds (his agent at Riby Grove); £500 each to his butler (Henry Naylor) and his valet (W. Howard), and annuities equal to the amount of their wages; £500 each to George Burrows (the captain of his yacht) and George Carr (shore ranger at Felixstowe); £300 to Wallis, his gardener; one year's wages to each of his other servants; and £100 each to the East Suffolk Hospital and the Convalescent Hospital at Mablethorpe.

The pictures, sculpture, plate, and furniture at his mansion-houses at Orwell Park and Riby Grove, and the jewellery, &c., deposited at Coutts, are to be held as heirlooms with the said mansions. His town residence and his freehold stables in Wells-street and Babmaymews are directed to be sold, and the proceeds to go with his residuary personal estate. Orwell Park and Riby Grove, and all his freehold, copyhold, and leasehold properties in Suffolk, Lincolnshire, or elsewhere in England, are settled on Ernest George Pretyman, for life, with remainder to his first and other sons successively according to seniority in tail male. The residue of his personal estate is to be laid out in the purchase of freehold or copyhold property in the county of Suffolk, to go and be enjoyed with his other settled estate.

***Illustrated London News, December 9th  
1889***

## OACommittee Contacts & Responsibilities

Neil Morley	Chairman	☎	[REDACTED]	Chair committee meetings. Represent OASI to external bodies.
Roy Gooding	Secretary	☎	[REDACTED]	Respond to enquiries. Press & publicity. Out Reach Meetings Open days.
Paul Whiting FRAS	Treasurer	☎	[REDACTED]	Finance. Visits by outside groups.
James Appleton	Committee	☎	[REDACTED]	Minutes of committee meetings. Web site.
Bill Barton FRAS	Committee	☎	[REDACTED]	Safety & security.
Martin Cook	Committee	☎	[REDACTED]	Membership. Tomline Refractor maintenance.
Tina Hammond	Committee	☎	[REDACTED]	Librarian.
Peter Richards	Committee	☎	[REDACTED]	Lecture meetings. Email distribution lists.
Eric Sims	Committee	☎	[REDACTED]	Newsletter.
John Wainwright	Committee	☎	[REDACTED]	Equipment curator.
Mike Whybray	Committee	☎	[REDACTED]	Workshops.

**To subscribe to the mailing list**



### **Trustees**

Mr Roy Adams  
Mr David Brown  
Mr David Payne

### **Honorary President**

Dr Allan Chapman D.Phil MA FRAS

## DIARY for JANUARY

<p><b>STONs</b></p> <p><b>Tuesday 1<sup>st</sup> - 8<sup>th</sup></b>  <b>From 8:00pm</b></p>	<p><b>SMALL TELESCOPES OBSERVING NIGHTS AT THE OBSERVATORY</b></p> <p><b>Main observing targets: Perseus, Taurus, Orion and M1, M42, M78, M34, M35, M36, M37, M38.</b></p> <p>☎ Paddy O'Sullivan 01473 621462  ☎ Gerry Pilling [REDACTED]  Dave Robinson [REDACTED]</p>
<p><b>Wednesdays</b>  <b>From 8.00pm</b></p>	<p><b>OBSERVATORY CLUB NIGHTS</b></p> <p>Observing with the Tomline Refractor and other telescopes if skies are clear.</p> <p>☎ Martin Cook [REDACTED], mobile [REDACTED]  ☎ Roy Gooding [REDACTED] mobile [REDACTED]</p>
<p><b>Wednesday</b></p> <p><b>Doors open 7:30pm</b>  <b>Start 7:45pm</b></p>	<p><b>OASI WORKSHOP</b></p> <p><b>At Nacton Village Hall</b></p> <p><b>Nothing arranged for this month.</b></p> <p>☎ Mike Whybray [REDACTED]</p>
<p><b>Thursday 17<sup>th</sup> January</b>  <b>Thursday 24<sup>th</sup> January</b>  <b>Both at 7.30pm</b></p>	<p><b>OBSERVATORY VISITS BY LOCAL COMMUNITY GROUPS</b></p> <p><b>Old Buckenham Hall School</b>  <b>Old Buckenham Hall School</b></p> <p>☎ Paul Whiting FRAS [REDACTED]</p>
<p><b>AGM January 19<sup>th</sup></b>  <b>8:00pm start</b></p>	<p><b>Annual General Meeting</b></p> <p><b>Venue: The Methodist Church Hall</b>  <b>Blackhorse Lane Ipswich</b></p>

BBC STARGAZING CHRISTCHURCH PARK  
Thursday 10<sup>th</sup> January More information inside

### OASI Members Group Observing Evenings.

Monday 14<sup>th</sup> January The venue is Newbourne Village Hall which will be available to us from 7pm until 11pm Address Mill Road, Newbourne Location map [www.newbourne.org.uk](http://www.newbourne.org.uk)

### Society Contact Details

Observatory tel. no. (meeting nights only): [REDACTED]  
Secretary: Roy Gooding [REDACTED] (day) [REDACTED] (evening)  
Web-site. James Appleton: e-mail [REDACTED]  
E-mail queries: [info@oasi.org.uk](mailto:info@oasi.org.uk)  
Facebook.com/orwell astronomical  
Chairman: Neil Morley [REDACTED] / e-mail [REDACTED]  
Please send material for the OASI web site (e.g. observations, notices of events, general interest articles) to [info@oasi.org.uk](mailto:info@oasi.org.uk)