



The Newsletter

of the



Orwell Astronomical Society (Ipswich)

2013
February

Registered charity no. 271313
www.oasi.org.uk

No 482



Have you ever seen this postcard, it is postmarked from Woodbridge 17th. October 1904, sent to Brentwood, Essex. Thought it might provide some interest to some members.!

Sent in by Norman Emeny

Society News (Roy Gooding)

1 Committee Meeting 27th April 2013

All members are invited to attend the next Committee meeting. 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 2013 Subscriptions

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

4 New Members

Mr. John Chapman Mr Alan Best Mr. Andy Whtelock

5 Events Programme for 2013

This provisional event list will be updated through out the year

Meeting	Venue	Date
Astro Fest	Kensington Conference & Events Centre London	8 th and 9 th February 09:00 to 18:00
Spring Star Party	Kelling Heath Kelling Norfolk	April?
Society BBQ	Newbourne Village Hall?	TBC
Autumn Equinox Sky Camp	Kelling Heath Kelling Norfolk	September
FAS convention	Cambridge Institute of Astronomy	October?
Open Weekend		TBC
Christmas Meal		December

6 Out Reach Meetings 2013 in Christchurch Park

Winter Star Party

Meeting	Venue	Date
Winter Star Party 1 st Option	Christchurch Park Westerfield Road entrance	Saturday 16 th February 19:00 to 21:00
Winter Star Party 2 nd Option if 1 st is cloudy	Christchurch Park Westerfield Road entrance	Saturday 23 rd March 19:00 to 21:00

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 member ship 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
End time	21:00
	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

Astronomy in the Park

Meeting	Venue	Date
Astronomy in the Park 1 st option	Christchurch Park Bolton Lane entrance	Saturday 18 th and Sunday 19 th May 11:00 to 16:00
Astronomy in the Park 2 nd option if 1 st is cloudy	Christchurch Park Bolton Lane entrance	Saturday 25 th and Sunday 26 th May 11:00 to 16:00

These dates for Christchurch Park have been confirmed with Sam Pollard

7 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 st Option	Chantry Park	Saturday 13 th April 20:00 to 22:00
Spring Star Party 2 nd option if 1 st is cloudy	Chantry Park	Saturday 20 th April 20:00 to 22:00

Note these dates are still provisional.

8 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

9 Out Reach Meetings 2013 Minsmere RSPB Reserve

This is a new one. The RSPB have asked use 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 4th October

10 2013 Comets

Two bright comets are predicted for 2013

The 1st comet (PANSTARRS) will be visible in the evening sky in March and April This one should be visible during the Chantry Park Star Party

The 2nd comet (ISON) and brightest (-16! this may be over optimistic) is visible before and after Christmas, may require more Out Reach meeting / meetings. I have spoken to Sam Pollard about running Star Parties before and after Christmas, in Christchurch Park.. The latter one should coincide with the BBC's Stargazing Live 2014

Night Sky (February)

Moon

3rd Quarter	New Moon	1st Quarter	Full Moon
3rd	10th	17th	25th

Object	Date			Mag.	Notes
		Rise	Set		
Sun	1	07:35	16:43		
	28	06:43	17:33		
Mercury	1	08:10	17:33	-0.6	Mercury is at greatest eastern elongation on the 16 th This will be the best evening apparition of the planet his year.
	28	06:37	18:25		
Venus	1	07:07	15:22		Venus is too close to the sun this month and will be unobservable.
	28	06:41	16:47		
Mars	1	08:19	18:14		Mars will also be too close to the sun this month and also unobservable.
	28	07:09	18:30		
Jupiter	1	11:25	03:29	-2.3	Jupiter will be observable until the early hours of the morning
	28	09:43	01:50		
Saturn	1	00:53	10:42	0.7	Saturn will be observable in the early hours after mid night
	28	23:03	08:57		
Uranus	1	09:18	21:40	5.9	Uranus remains in Pisces. It is moving in to the evening twilight
	28	07:34	20:01		
Neptune	1	08:21	18:29		Neptune is too close to the sun the see this month.
	28	06:37	16:48		

Tribute to Sir Patrick Alfred Caldwell-Moore, CBE, FRS, FRAS (4th March 1923 to 9th December 2012)

All of us have our own recollections of Sir Patrick Moore. Throughout his long life, he inspired generations with an interest in astronomy and space travel with an obvious enthusiasm, wit, and incredible talent as a broadcaster. Patrick was also a talented musician being incredibly proficient on the xylophone and piano. He even appeared at a Hoffnung Prom concert at the Royal Festival Hall playing a solo on an ocarina, a small woodwind instrument in the slow movement of Haydn's Surprise Symphony, updated for the modern age with shattering glass effects. His first love was always astronomy, and his detailed lunar maps produced with painstaking patience and dedication were used by NASA to plan Apollo landing sites. Patrick truly demonstrated the great British tradition of significant contributions to science by distinguished amateurs and his passing is a sad loss.

My earliest memory was Patrick presenting BBC coverage of the Apollo 8 mission with James Burke and Sir Bernard Lovell in 1968. This was the first time human beings left the gravitational confines of our Earth and travelled to the Moon, a “tremendous triumph”. Whilst I didn't recall it, the programme was rudely interrupted at a critical time by the children's programme Jackanory! I can only imagine Patrick's reaction off-air, and have no doubt it was completely unprintable!

During the 1970s, Patrick appeared several times as a contestant in a quiz show called “Face the Music”. During one appearance, he was presented with perhaps not the very best portrait of our Queen, and asked who it was. “I have no idea” was his response resulting in an outburst of laughter from the contestants and audience.

Around that time, my uncle, Eric Fletcher, played Oboe and Cor Anglais in the Hallé orchestra. He was asked by the BBC to play a musical extract for the contestants to identify on "Face the Music". Patrick appeared in that very show and the story goes they chatted during one of the breaks. As there was a table tennis set in a room next to the studio, a match was arranged and proceeded during the next break. Despite his large size, Patrick completely dominated the proceedings and completely outplayed my uncle who reported "He was amazing, despite his enormous size, really quick around the table, incredible reactions, what a player!"

As well as his appearances on the Sky at Night for over 50 years, Patrick wrote a huge number of books and I took particular delight as a youngster reading one of his books "How to Speak Venusian". This debunked independent thinkers including flat earthers and the Bradbury telescope that could apparently see the edge of our Universe. In the book, Patrick refers to Unidentified Flying Objects as "crockery from the void" and the Labour government of the 1970s as containing "a lot of independent thinkers!"

Around 10 years ago, I saw Patrick at the Ipswich Corn Exchange where he demonstrated his virtuosity on the xylophone playing his own compositions with Ipswich Silver Band. One of them was called "Penguins March". Afterwards, he made his way to the front of the stage with the large box of Ferraro Rocher chocolates he'd been presented with and proceeded to auction them to the audience with his trademark staccato voice "Now, who'll give me one pound, two pounds, three pounds, ... who'll give me fifty pounds?" The proceeds went to a local charity.

A great man who will be sadly missed. May he rest in peace.

Words by Neil Morley

Astronomy Workshops

Doors open at 7:30pm.

Workshops START at 7:45pm

Venue: NACTON VILLAGE HALL IP10 0EU

If you are a new OASI member, or haven't been to one of these 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!

Date	Event	Run by...
6 ^m February	Setting Circles Setting circles are a much neglected facility on telescopes. However, they can be a very useful aid to finding astro objects, especially for non-expert observers. Advanced observers may also need them when clouds make "star hopping" difficult or for daytime observations. The workshop will explain how to use setting circles with both equatorial and alt/az telescopes, in combination with star charts and planetarium programs.	Paddy O'Sullivan
6 ^m March	The Sun The Sun appears to be that big, yellow ball of gas that provides us with heat and light and the occasional aurora display. But what actually is the Sun? and how does it work? Paul will spend a few minutes giving a conducted tour of the interior of the Sun together with some of the processes that make the Sun "shine". Bill will conclude the evening with an outline of amateur study of the Sun, covering the following subject areas: white light observing, narrow band observing and reduction of results.	Paul Whiting and Bill Barton

3 rd April	Stars and their colours The wavelength (colour) spectrum of a star can be used to understand many of its properties e.g. its type (old, new, hot or cool), chemical composition, and velocity; indeed most of our knowledge of stars has been obtained through spectroscopy. This talk is an introduction as to how the amateur can obtain, record and process star spectra in a (relatively) inexpensive manner using grating, camera and free software.	Mike O'Mahony
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Mike Whybray Workshops organiser
 [REDACTED] (Mobile) [REDACTED] (Home)

Workshops venue: NACTON VILLAGE HALL IP10 0EU (next to the small village school, just below and left of the N in Nacton on the map). Please park on the same side of the road as the hall, but avoid parking on the white lines which mark clear spaces for various driveways and passing places. The police do occasionally check up on this!

Note that Mains Sewerage work is underway in Nacton village. The Street past the village hall is likely to be closed 2nd Jan to 23rd Jan but otherwise open. More detailed information here:

<http://nacton.onesuffolk.net/news/nacton-sewerage-scheme/>



Mira – “The Wonderful”

I was vaguely aware that variable stars were important to astronomers, both historically and as a way of testing theories in astrophysics. Also, I'd heard that professional astronomers, in a ruthless 'publish or perish' world, rarely had the time for long detailed observations of just one object. The adept amateur could still contribute, using telescopes, and possibly photometers, that were not at the cutting edge. Maybe I, as an inexperienced observer, could also get something out of it.

Mira (or Mira Ceti, or Omicron Ceti) seemed a good place to start. It is the first periodic variable star to be recorded. David Fabricius noticed it in 1596. He saw it increase in brightness and then fade away, and assumed it was a nova, never to be seen again. Then he spotted it 15 years later. Johannes Holwarda studied it systematically in 1638, attributing a period of 11 months. Johannes Hevelius, described as the last astronomer to do significant work without the help of a telescope, called it “Mira” in a publication of 1662.

It remains the most famous long period variable star, with a cycle of about 332 days. Around 100 days of this are brighter than magnitude 5. At its peak, the magnitude averages 3.5, with historical limits of 4.9 and 2.0. The minimum ranges from magnitudes 10.1 to 8.6. Brightness increases at twice the rate of its fall. It is located quite close to the ecliptic, in an unremarkable area of the sky below Aries.

I began to take an interest in early August this year, and discovered that in 2012 its peak brightness occurred around 21st -31st of that very month. Viewing was not very convenient. Mira was rising uncomfortably late, although this situation would gradually ease with time.

Observation of the peak would be even less convenient the following year, and the next attractive possibilities would be 2018 or 2019. I decided it was now or never.

Initially thwarted by bad weather, I pinned Mira down early on 18 August. I had taken some binoculars to Shingle Street to give myself the best possible chance. It took a while to be certain I had found the right star, even though it was brighter than magnitude 4. At 0100 BST it was still very low, with an altitude of about 12°.

A number of OASI members were emailed to see if they had any interest in the project but, with one noble exception, response was muted. This was unsurprising, given the absence of any sort of wow-factor, and the anti-social hours.

I also emailed Mike Nicholls, an OASI member who has observed variables assiduously.

He pointed me at the Variable Star Section of the British Astronomical Association. Their website is very useful, and provided me with star maps centred on omicron Ceti, i.e. Mira. Here is an example, reproduced with permission of the BAA. I have added some names of constellations:

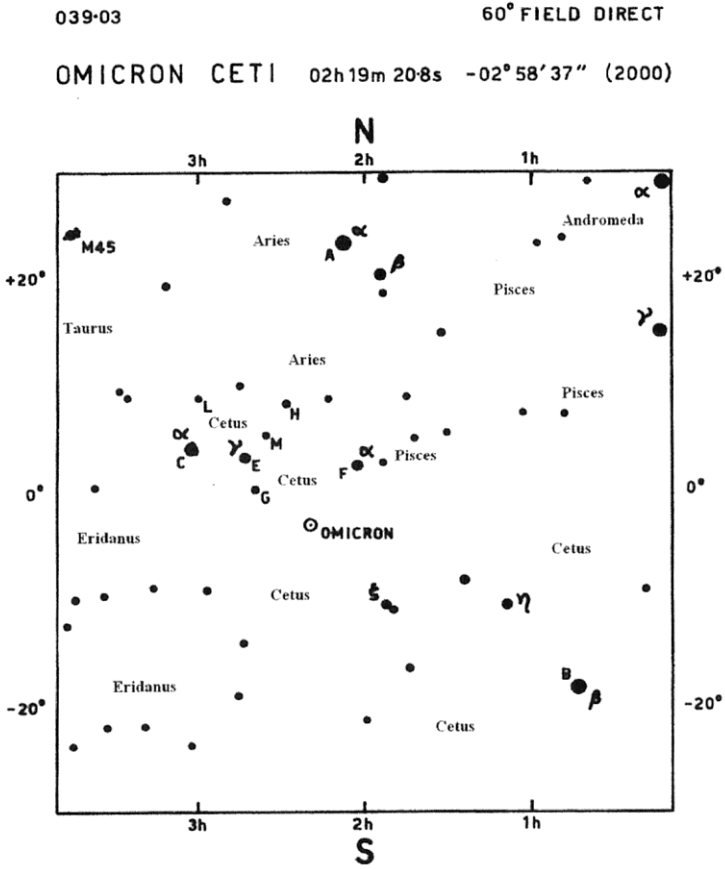


CHART:	A 2.0	G 4.1	BAA VSS
NORTONS SA	B 2.0	H 4.3	EPOCH: 2000
SEQUENCE:	C 2.5	L 4.7	DRAWN: JT 28-08-11
TYCHO 2 VJ	E 3.5	M 4.9	APPROVED: RDP
	F 3.8		

Observers of variable stars use a simple technique. They choose nearby stars of similar magnitude as references, and make comparisons. This map gives a wide

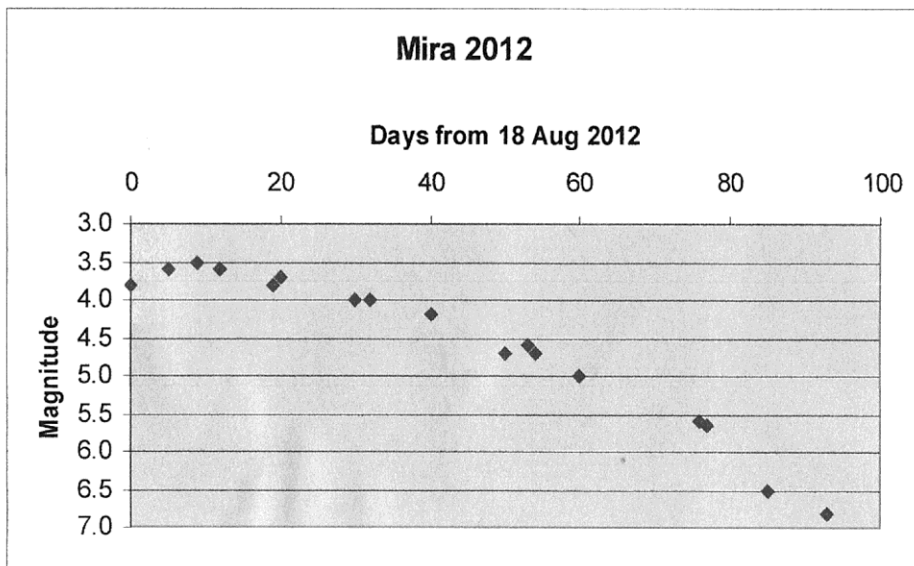
field of view, 60°, and the suggested reference stars, listed with their magnitudes, can be used when Mira is at its brightest. The 18° and 5° field maps focus on the sky closer to Mira, and suggest reference stars to use when Mira is fainter.

Two tips from Mike were:

- Judging the brightness of a red star (like Mira) becomes more difficult if you stare at it. Subjectively, it will appear brighter as time passes. It is better to concentrate on the comparison star, and use fleeting glances towards your target. Needless to say, reference stars should not really be red ones (which may even be variables themselves!)
- Don't worry too much about a modest difference in altitude when comparing the brightnesses of two stars. For a beginner, the impact of the difference in "atmospheric extinction" will be small.

I did not really need the 5° field map, which is for when Mira falls below magnitude 7. I did try to continue observations using a borrowed telescope rather than my binoculars. The narrow field of view, and the inverted image, completely flummoxed me. With Mira becoming fainter by the day, I had to give up.

Here are my results:



For my initial observations I made a few late-night forays to places with dark skies. As I gained confidence, I viewed Mira low in the sky looking out of my bedroom window at Martlesham Heath. Later on, Mira had fairly good altitude at sensible times, and I could view from my back garden.

Mike's observations from 1980-81 are at

http://www.oasi.org.uk/Archive/Observations/Variable_Stars/Variable_Stars.htm. There is a link there to his 1986 article on long period variables. (Alternatively, put the words 'mira long period variables' into Google, and his article should come up at number 5!) He explains how LPVs, often described as 'Mira variables', are generally old red giants. The variability arises from pulsations, whose cause has not been convincingly modelled by astrophysicists.

Since 1986, aperture-synthesis imaging in the optical and the infra-red has suggested that many LPVs are not spherically symmetric. You can find pictures which show the red giant as a fuzzy blob and looking distinctly oval. To model this adequately would require a super-computer.

Mira itself is a binary system, about 300 light years away. The old red giant is called Mira A, and its companion, Mira B, is a white dwarf goes around it every 400 years or so. Mira B is steadily accreting matter from Mira A. It is an example of a 'symbiotic star', possibly the closest one to Earth.

At the beginning of October 2013, Mira should be on the downward side of its light curve, and about magnitude 4.5. By midnight it will be high enough in the sky to observe. I may find I have sufficient telescope experience to extend the light curve below magnitude 7.

I have found the project rewarding so far:

- You gain familiarity with a particular patch of the night sky
- You develop your observing skills
- You never know quite what you will see next
- You have the satisfaction of unwrapping a secret of nature

Joe Startin © 2013

OCCULTATIONS DURING FEBRUARY

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
12 Feb	17:52:57	D	0.07+	-8	20	6.5	15 Psc
15 Feb	18:05:02	R	0.30+	-9	46	6.0	ZC 299
18 Feb	18:38:39	D	0.59+	-13	58	6.3	ZC 691
18 Feb	18:45:45	D	0.59+	-15	58	7.2	Hip 21403
18 Feb	19:11:52	D	0.59+	-19	57	7.3	Hip 21465
20 Feb	18:40:19	D	0.76+	-13	53	7.5	Hip 29909
21 Feb	18:51:20	D	0.84+	-15	48	7.4	ZC 1083
23 Feb	23:01:51	D	0.96+	-45	49	5.4	60 Cnc

James Appleton

Newbourne Observing Group

We meet at The Newbourne Village Hall, Mill Lane, Newbourne IP12 4NP

Many regrets that owing to the forecasted snow we had to cancel the January Meeting.

Our next meeting is on Monday 11th February starting at 7pm. where we will carry forward our January programme

What telescope should I buy?

Request for Star Party at Goresland Primary School

I have been asked to put on a talk / telescope viewing evening for pupils at Goresland Primary School, Deben Avenue, Martlesham between 18:00 and 19:30 on Friday 1st February.

I am looking for as many telescopes as possible. Any volunteers can you contact me asap please. Many thanks Paul Whiting ([REDACTED])

OASI Committee 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 FEBRUARY

<p>STONS</p> <p>Tuesday 5th - 12th From 8:00pm</p>	<p>SMALL TELESCOPES OBSERVING NIGHTS AT THE OBSERVATORY</p> <p>Main observing targets: Gemini, Auriga, Orion & double stars NGC2392/C39, M35, M36, M37, M38, M42/43, M78.</p> <p>☎ Paddy O'Sullivan [REDACTED] ☎ Gerry Pilling [REDACTED] ☎ Dave Robinson [REDACTED]</p>
<p>Wednesdays From 8.00pm</p>	<p>OBSERVATORY CLUB NIGHTS</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>Wednesday 6th February Doors open 7:30pm Start 7:45pm</p>	<p>OASI WORKSHOP At Nacton Village Hall Setting Circles By Paddy O'Sullivan</p> <p>☎ Mike Whybray [REDACTED]</p>
<p>Tuesday 5th Feb 8-0pm Thursday 7th Feb 7-30pm Thursday 14th Feb 7-30pm Thursday 21st Feb 6-30pm</p>	<p>OBSERVATORY VISITS BY LOCAL COMMUNITY GROUPS</p> <p>Taster Evening 14th Ipswich Cubs 12th Ipswich Brownies 31st Foxhall Beaver Scouts</p> <p>☎ Paul Whiting FRAS [REDACTED]</p>
<p>Saturday 27th April 8:00pm start</p>	<p>COMMITTEE MEETING Venue: The Methodist Church Hall Blackhorse Lane Ipswich</p>

Winter Star Party Christchurch Park Westerfield road entrance
1st Option Saturday 16th February 19:00 to 21:00

OASI Members Group Observing Evenings.

Monday 11th February The venue is Newbourne Village Hall. Available to us from 7pm until 11pm. Subject What telescope should I buy?
Address Mill Road, Newbourne. Location map 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
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