oasi.org.uk

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OASI News

The newsletter of Orwell Astronomical Society (Ipswich)

1 Stephen Olley - Rosette Nebula. From over 9 hours to data

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Society Notices

Dear Members,

Well, we finally got to see some some clear skies in March, with a number of bright planets visible in the evening sky during the early part of month.

As we move into Spring, the galaxies in Leo and Virgo will provide good opportunities for observing and imaging, it would be great to see your images or reports of your observations.

As well as our regular meetings at Orwell Park and Newbourne this month, we will be holding the second of Spring lectures at the Lantern Room, St Augustine's, on Friday 25th April. Well renowned astrophotographer, Nik Szymanek, will be presenting a talk on Robotic Imaging.

I hope to see you at any of our meetings in the coming month.

Thank you,

Andy Gibbs,

Chairman.

Committee 2025

Chairman	Andy Gibbs	Set overall agenda for OASI, Chair committee meetings, Press and publicity
Secretary	Roy Gooding	Outreach meetings (jointly with Chairman), observatory decoration
Treasurer	Paul Whiting	Finance, Supervision of applications for grants. Visits by outside groups, Observatory tours, public appreciation of astronomy, Outreach activities
Committee	James Appleton	Committee meeting minutes, Web site
	Martin Cook	Membership, Tomline refractor maintenance & user testing
	Matt Leeks	Safety & security
	Peter Richards	Lecture meetings
	Mike Whybray	Astronomy Workshops, Child protection officer, Orwell Park School Astronomy Club
	Andy Willshere	Librarian
	Adam Honeybell	Newsletter
	Paul Whiting	OASI @ Newbourne

Committee Meeting

The next Committee Meeting will be the Friday 30th May 2025 on Zoom. All members welcome.

New members

Jenifer Hammond
Welcome!

Society Contact details

Website:	https://www.oasi.org.uk
Events:	https://www.oasi.org.uk/Events/Events.php
Email queries:	info@oasi.org.uk
Submissions for Newsletter:	news@oasi.org.uk
Members-only message board:	https://groups.io/g/OASI
Observatory (meeting nights only):	☎ 07960 083714

Social Media

For other astronomy news and astro pictures try our socials:

Facebook:	https://www.facebook.com/groups/445056098989371
YouTube:	https://www.youtube.com/@orwellastronomical425
WhatsApp:	There is a WhatsApp group. Please email to be added.

We'd like to use social media a little more, since it's a more direct and immediate way to interact with members and potential members. Feel free to post pictures, comments or interesting articles. The more it's used, the more other people will be inclined to use it as well.

Articles for OASI News

News, pictures and articles for this newsletter are always welcome.

Please send tables as separate files in one of these formats (Excel, .csv, OpenOffice)

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."

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

The CLOSING date is the **15th** day of the month (i.e. 15th April).

The Newsletter archive is at www.oasi.org.uk/NL/NL_form.shtml

Authors, please note that your articles will 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.

Meetings and events

We have regular meetings on the 2nd and 4th Monday of the month (usually) at **Newbourne Village Hall**, and every Wednesday at **Orwell Park**. Night sky observing will usually take place when the skies are clear. See website for more events.

Date, Time & Location	Contact	Event
Weekly, every Wednesday, from 20:00, Orwell Park Observatory, Nacton	Martin Cook	Observatory open
Monday 7th April 20:00 Orwell Park Observatory	Paul Whiting,	Taster evening . Fully booked.
Monday 14th April 19:30 Newbourne Village Hall	Paul Whiting,	Newbourne meeting - beginners and new members welcome! Observing target for the month: Ursa Major. 19:30: doors open. 19:45: Astro-news by Paul Whiting, FRAS. NB: if the sky is clear, priority will be given to observing, and Astro-News will be postponed.
Monday 21st April 20:00 Zoom	Paul Whiting,	Pre-recorded talk: Is Interstellar Travel Possible? by Les Johnson. (Zoom login details are provided in an email to members.)
Friday 25th April 19:45 St Augustine's Church, The Lantern Room (church annex)	Pete Richards	Lecture Meeting. Nik Szymanek , Robotic Telescopes . Our 2025 lecture series
Monday 28th April 19:30 Newbourne Village Hall	Paul Whiting,	Newbourne meeting - beginners and new members welcome! Observing target for the month: Ursa Major. 19:30: doors open. 19:45: Sky Notes by Bill Barton, FRAS.

OASI @ Orwell Park

There are regular meetings every Wednesday evening from 8pm. Access is controlled by a gate and a fob. The entrance is gate 2 is on Church Road, What3Words is **tour.fuse.banks**

Access into the School Grounds and Observatory Tower

The route is as follows:

• Enter through gate 2 (gate 1 being the main gate) and park inside as per the attached map.

• Enter the school through the double black doors as indicated on the map. A key fob will be required to open the door.

• Continue straight through the next two sets of double doors.

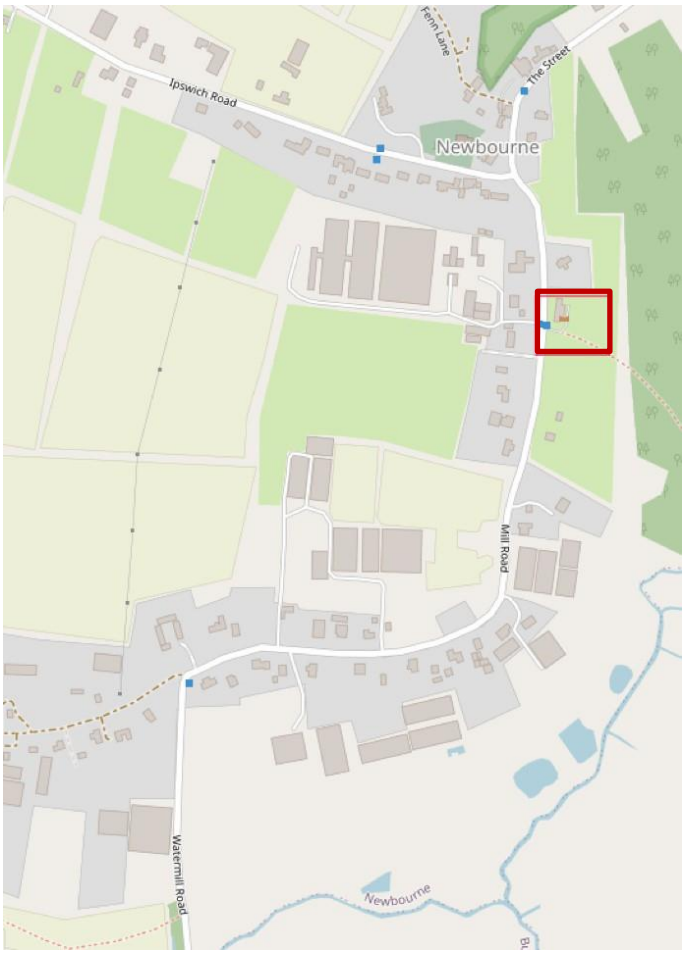
• Turn left at the end of the short corridor then immediately right.

• Pass through the single door and on your left you will find the staircase leading to the observatory.

• On no account must you deviate from this route.

When leaving the observatory use the same route but in reverse. Please keep noise to a minimum as there are staff quarters nearby.

OASI @ Newbourne



newbourne@oasi.org.uk

We meet at Newbourne Village Hall, Mill Lane, IP12 4NP on the 2nd and 4th Mondays from 19:30.

What3Words **scars.atlas.printing**

Visitors are welcome but we do ask you to join the Society after two visits.

http://www.oasi.org.uk/OASI/Membership.php

Newbourne dates for 2025		
April	**14**	**28(S)**
May	**05#**	**26(S)**
June	**09**	**23(S)**
July	**14**	**28**
August	**11**	**25**
September	**08**	**22**
October	**13**	**27**
November	**10**	**24**
December	**08**	**22**

We open up for all meetings at 7:30pm.

Astro News (A) / Sky Notes (S) at 7:45pm followed by any Talks (T), Workshops (W) and occasional Quiz (Q).

[#] indicates a change to the normal monthly pattern.

Forthcoming Outreach Programmes 2025

All members are welcome to come along and help out at these events – you don't need to be an expert in the subject, just some enthusiasm! Just respond to the email call for help prior to the event.

Please note that not all events are open to the public.

Sunday 15th June 09:30-16:00 East Suffolk Wireless Revival	Public access event. Solar observing. Booking not necessary.

BAA news, events & webinars

BAA: https://britastro.org/events/future-events

Events correct at time of publication, please go to website for latest information.

11 April 2025	BAA Winchester Weekend	The BAA Winchester Weekend for 2025 will be held from Friday 11th to Sunday 13th April. It will include a Jupiter Section meeting.

The BAA Radio Astronomy Section

The BAA Radio Astronomy Section have been enjoying talks, seminars and tutorials via Zoom and these are available on the BAA YouTube channel https://www.youtube.com/user/britishastronomical/playlists.

The Night Sky in April 2025

Event times are for Orwell Park Observatory at 52.0096°N, 1.2305°E. Times are **GMT** unless otherwise stated.

Sun, Moon and planets

Sources: http://heavens-above.com/PlanetSummary.aspx http://heavens-above.com/moon.aspx

Object	Date	Rise	Set	Mag.	Notes
Sun ☉	1	05:30	18:29		
	30	04:27	19:19		
Moon ☾	1	06:22	23:35		Full Moon : 13 April 00:22 Apogee : 13 April 22:49 Last Quarter : 21 April 01:36 Perigee : 27 April 16:18 New Moon : 27 April 19:31
	30	05:25	23:52		
Mercury ☿	1	05:03	17:07	2.9	
	30	04:03	16:35	0.2	
Venus ♀	1	04:26	17:18	-4.1	
	30	03:13	15:21	-4.4	
Mars ♂	1	10:39	03:18	0.4	
	30	09:55	01:51	0.9	
Jupiter ♃	1	08:06	00:21	-2.0	
	30	06:31	22:50	-1.8	
Saturn ♄	1	05:18	16:35	1.2	
	30	03:30	14:59	1.2	
Uranus ♅	1	07:01	22:24	5.8	
	30	05:11	20:39	5.8	
Neptune ♆	1	05:23	17:08	8.0	
	30	03:31	15:20	7.9	

Occultations during April 2025

https://iota-es.de/moon/grazing_descrx101.html and
http://www.lunar-occultations.com/iota/bstar/bstar.htm

Observers are encouraged to download and install the Occult software program [Windows only] to generate predictions for their own particular site coordinates.

Meteor showers during April 2025

Name	Date of Maximum	Normal Limits	Possible hourly rate	Description
Lyrids	22 April	16-25 April	18	Bright fast meteors, some with trains. Associated with Comet Thatcher

See also https://www.rmg.co.uk/stories/topics/meteor-shower-guide

For radio observation, use reflections from Graves Radar on 143.049MHz or the Brams transmitter in Belgium on 49.97MHz and UK GB3MBA on 50.408MHz https://www.ukmeteorbeacon.org/Home

See also https://www.popastro.com/main_spa1/meteor/radio-meteor-observing-2020/.

Comets

Source : https://heavens-above.com/Comets.aspx.

Comet	Brightness	Date of last reported observation	Angular separation from Sun	Constellation
C/2023 A3 Tsuchinshan-ATLAS	11.5	2025-Apr-05	69°	Delphinus
29P Schwassmann-Wachmann 1	13	2025-Apr-05	125°	Leo
C/2021 G2 Atlas	13.8	2025-Apr-06	144°	Libra
C/2022 E2 ATLAS	15.1	2025-Apr-04	41°	Andromeda
C/2024 L5 ATLAS	15.5	2025-Apr-02	162°	Hydra
P/2010 H2 Vales	15.5	2025-Apr-02	165°	Virgo
49P Arend-Rigaux	15.6	2025-Mar-21	44°	Taurus
C/2014 UN271 Bernardinelli-Bernstein	15.6	2025-Apr-02	79°	Reticulum
C/2022 QE78 ATLAS	15.6	2025-Apr-06	79°	Gemini
C/2023 T3 Fuls	15.7	2025-Apr-01	153°	Centaurus
P/2023 S1	15.9	2025-Apr-05	110°	Cancer

Visible ISS passes >30º max altitude for April 2025

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

Times are **GMT**.
Predictions are approximate (07/04/25) due to craft adjustments. Check the day before.
There are more passes than this, but they're below 30 degrees, so will be harder to spot unless you have good weather and can see the horizon. As with stella/planetary brightness, the more negative the magnitude, the brighter it is.

Date	Brightness	Start			Highest point			End			Pass type
	(mag)	Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.	
08-Apr	-1.9	18:38:45	10°	WNW	18:41:47	31°	SW	18:44:50	10°	S	visible
10-Apr	-3.3	05:26:56	10°	SSW	05:30:15	62°	SE	05:33:32	10°	NE	visible
13-Apr	-3.4	04:43:44	49°	NW	04:43:44	49°	NW	04:46:41	10°	NNE	visible

Bill Barton'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

Quick puzzle answers for March 2025.

Andy Willshere

1. What is the number at ? J = -7. P = 5. R = 9. L =-3. Y = ?.

Answer = 23.

Take positive Caesar code away from the negative code. E.g. J= 10 – 17 =-7. Therefore Y = 25 -2 = 23.

2.

		8				**7**				**17**	
9			**7**		**14**			**4**			**15**			**6**
		55				**49**				**?**	

Answer = 73. Take first four numbers. 9 *7 =63. 63 -8 =55. Therefore 15 *6 = 90- 17 = 73.

3.

If JOHN = 61
PETER = 71
MARY = 51
JANE = 78
What does DAVID = ?

Answer 40

Add together all the alpha-numerical values of all the letters in each name. E.g. J 17 O 12 H 19 N13 = 61.

Puzzle for April 2025.

1. Elementary particle with negative electric charge and spin of ½.
2. Statistical average of speeds of a group of molecules.
3. Second smallest of the Galilean moons.
4. Most dense giant planet.
5. In theory it is a vast cloud of icy planetesimals surrounding the Sun, Planets and the Kuiper Belt objects.
6. Collapsed core of a massive supergiant star.
7. Heisenberg's indeterminacy principle.
8. Star Queen nebula.

Take the first letter of each answer and unscramble the eight letters.
The answer moves very quickly.

NASA's Uranus Orbiter and Probe.

Short article from the library.

Andy Willshere

The Uranus Orbiter and Probe is a mission to investigate the planet and its moons. This mission idea was selected by the Planetary Science Decadel Survey of 2023 to 2032, with a proposed launch in the late 2030's. The mission duration will be 13.4 years with a science stage of 4.5 years, acquiring 51.9 GB of data. To date, Voyage 2 is the only space probe to visit Uranus in a flyby on January 24 th 1986.

Uranus is an ice-giant with the third largest diameter and the fourth largest mass of our solar system, with 28 moons and may have been spotted as early as 128 BC by Hipparchus and recorded in his star chart. The earliest definitive report was by John Flamsteed in 1690 who catalogued it as 34 Tauri and later by the French astronomer Pierre Charles Le Monnier, who recorded it many times between 1750 and 1769. William Herschel then spotted it on 13th March 1781, whereby he reported his findings to the Royal Society. Agreement on the name however did not reach consensus for another 70 years. It is encircled by an atmosphere of hydrogen and helium, with small amounts of hydrocarbons noted in its upper atmosphere, and has a rocky core in its mantle layer. The ice is made up of methane, ammonia and water, which comprises most of the planet and finally it has an axial tilt of 97.7° and a retrograde rotation of 17'14". Surrounding Uranus are nine very narrow, compact rings, with over 12 small moons and a wide array of dust groups. The present structure of these rings and moons may retain evidence of how these bodies exist. The Uranus Orbiter would therefore be able to answer several vital questions.

a) Why are these rings and moons in their present position.
b) What are they made from and how long have they been formed.

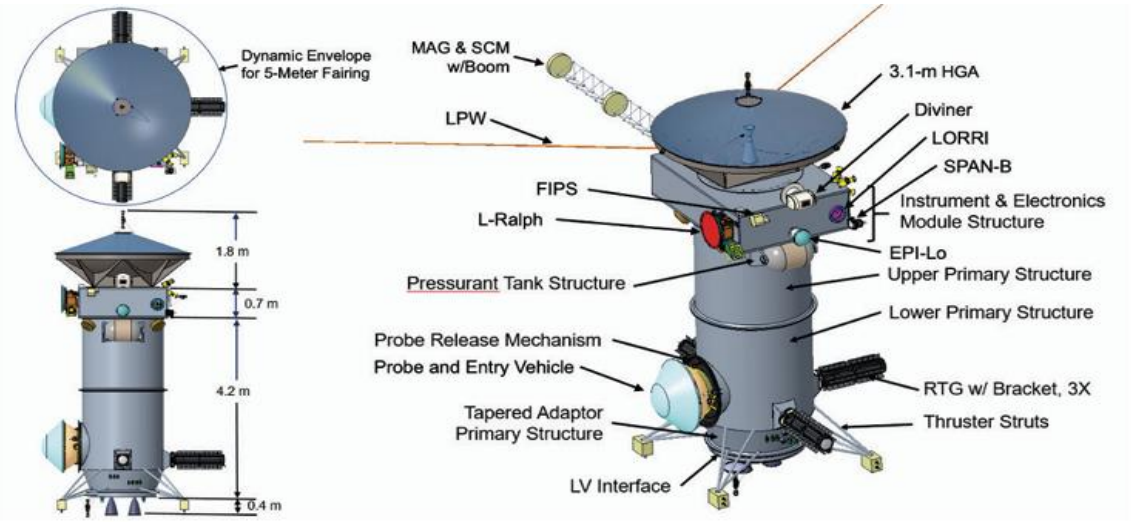
To date, Uranus with all its fascinating features, is still one of the least researched planets of our solar system. This mission with the Orbiter and Probe is set to change this. A small probe will be deployed soon after trajectory insertion to study the atmosphere of the planet, and then over the next 4.5 years observations of the five major moons will take place. These are Miranda, Ariel, Umbriel, Titania and Oberon. The system has been selected for investigation in the main because of its extreme tilting, little generation of internal heat, complicated magnetic field and a satellite arrangement that may contain oceans. The design of the Orbiter is similar to that of the Europa Clipper which lifted off 14th October 2024. It has primary and secondary structures, and a propulsion stage. From lift off the Orbiter and probe, will circle Earth, and then head off for Jupiter. At both planets the spacecraft will receive gravity assists. Uranus will then be the next port of call about 9 years later. Target launch has recently been put back to mid to late 2030's, using a Falcon Heavy Expendable launch conveyance. Total launch mass 7,235 kg. Orbiter payload mass 60.5kg, Probe 19.7kg.

Because it takes 13.4 years to get from Earth to Uranus and the distance travelled, there are a multitude of questions that require answers prior to the cessation of the mission. Here is a sprinkling of the main ones:

- When, where and how did Uranus form, and how did it arrive at its particular point in space?
- Was a giant impact to blame for the axial tilt.
- What are the heat processes through Uranus and its satellites.
- How is the magnetosphere formed.
- Are there any large quantities of water available on the moons.
- How are ice-giants formed in an exoplanetary system.
- How does the solar wind react with the magnetosphere.

In order to investigate this system, each task is to be allotted enough time to fulfil its investigation. The team are

also hoping that both equatorial and polar areas can be explored in order to research both the magnetosphere and planetary gravity field, as well as studying as much of the surface area as possible.



Picture Credit . uranus-orbiter-and-probe.pdf. NASA.gov. Schematic of Orbiter and probe.

ORBITAL JOURNEY	4 years minimum
SATELLITE FLYBYS	3 targeted, 2 non-targeted flybys of each of the larger moons <10km/s
	Small moons flyby, polar and low altitude passes.
ORBITER'S INSTRUMENTS	
	Magnetometer
	Narrow angle camera
	Wide angle camera
	Thermal infrared camera
	Visible-near IR imaging spectrometer
	Fast imaging plasma spectrometer
	Electrostatic analysers.

Mass spectrometer

Atmospheric structure analysers

Ultrastable oscillator

Charged particle detectors

With this enterprising mission NASA hopes to open up the mysteries of this Solar system situated at its closest 1.6 billion miles from Earth. It will provide scientific information to enhance our knowledge and provide data as to whether at any stage into the future humans may step on any part of it. It will also motivate our next source of space scientists.

References:

uranus-orbiter-and-probe.pdf

Uranus and Probe - Wikipedia

Uranus: The Ice Giant on a Tilted Axis | HowStuffWorks

Members Observations

I've taken some of the images from WhatApp, but since it's more informal I don't always have full names and specifics of how photographs were taken and equipment used. So, please send any photos you would like in the newsletter to news@oasi.org.uk along with relevant information, like date/time, camera, lens, exposure time and software used. This helps other people when they try to take similar photo.

Andy Gibbs

I imaged this target on 18th and 20th March 2025.

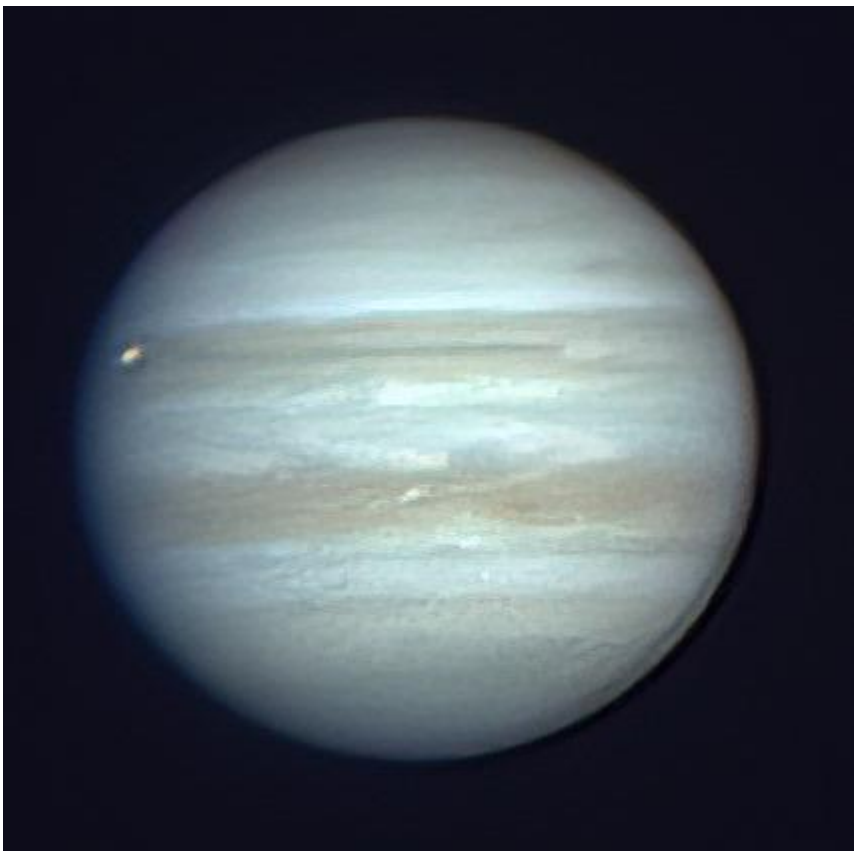
10x 60sec exposures taken though Hydrogen alpha, Sulphur II and Oxygen III filters. Then combined with dark, flat and bias frames, to produce the image in the Hubble palette. (Ha green, SII red, OIII blue).

Equipment used: Atik One 6.0 monochrome camera, Explore Scientific ED80 CF refractor, Skywatcher HEQ5 mount. Controlled by a PrimaluceLab Eagle 3.

Software used: Sequence Generator Pro, Deep Sky Stacker, Affinity Photo 2.

Carl Baldwin

Jupiter and Io



Louise Hood

M45 - Nebulosity can be made out most around Maia and Merope.