



# OASI News

The newsletter of the Orwell Astronomical Society



**Rosette Nebula**

*Photo by Andy Gibbs*

Trustees:

Mr Roy Adams

Mr Neil Morley

Mr David Payne

Honorary President:

Dr Allan Chapman D.Phil MA FRAS

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## Society Notices

### Dear Members,

We use a Zoom Pro account for online meetings. If you would like to join in, please email Paul Whiting, [treasurer@oasi.org.uk](mailto:treasurer@oasi.org.uk)

In the coming months, we will be guided by advice from the Government and Public Health England, as to when we can resume some of our activities. These are likely to be very limited at first, the Committee will decide what could be done, with the health and safety of everybody being the highest priority.

I would like to wish everybody clear skies, stay safe and I hope to see you soon.

**Andy Gibbs, Chairman**

### Society Contact details

Email queries: [info@oasi.org.uk](mailto:info@oasi.org.uk)

Facebook: Orwell Astronomical

Twitter: @OASIpswich

YouTube:  
<https://www.youtube.com/channel/UCHgxe3QAeRVWf7vkjKkCI2Q>

Members-only message board

<https://groups.io/g/OASI>

Observatory (meeting nights only)  
07960 083714

**Please send material for the OASI  
web site and newsletter  
e.g. observations, notices of events,  
general interest articles, to  
[news@oasi.org.uk](mailto:news@oasi.org.uk)**

The CLOSING date is the 15th day of the month

## 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 during meeting hours. Kindly check/amend the number shown on your 2021 membership card.

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**

## Welcome new members since October 2021

|              |                 |                |                    |
|--------------|-----------------|----------------|--------------------|
| John Daborn  | Gemma Allard    | Michael Maran  | Stephen McElvanney |
| Julie Norton | Sue Spence      | Francois Belin | Suzanne Bedford    |
| Martin Floyd | Alexander Lloyd | Jim Craig      |                    |

## Articles for OASI News

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

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."?

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 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 2022

|            |                                   |                                                                                                                                                      |
|------------|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chairman   | Andy Gibbs                        | Set overall agenda for OASI, Chair committee meetings, Press and publicity,                                                                          |
| Secretary  | <a href="#">Roy Gooding</a>       | Outreach meetings (jointly with Chairman), observatory decoration.                                                                                   |
| Treasurer  | <a href="#">Paul Whiting FRAS</a> | 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                                                                                                                  |
|            | <a href="#">Martin Cook</a>       | Membership, Tomline refractor maintenance & user testing                                                                                             |
|            | Matt Leeks                        | Safety & security                                                                                                                                    |
|            | <a href="#">Peter Richards</a>    | Lecture meetings, Email distribution lists                                                                                                           |
|            | John Wainwright                   | Equipment curator                                                                                                                                    |
|            | Mike Whybray                      | Astronomy Workshops, Child protection officer, Orwell Park School Astronomy Club.                                                                    |
|            | Andy Wilshere                     | Librarian                                                                                                                                            |
|            | Avtar Nagra                       | OASI @ Newbourne                                                                                                                                     |
| Assistants | Martin Richmond-Hardy             | Newsletter, OASI @ Newbourne                                                                                                                         |

## Committee Meeting

The next Committee Meeting will be on Friday 27 May at 8:00pm via Zoom.

## OASI and BAA Events

Please note that the listed events may change depending on the progress of the pandemic. For the latest event details, please see [www.oasi.org.uk/Events/Events.php](http://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 (bottom right of the calendar) or use this address to access this calendar from other calendar applications.



<https://calendar.google.com/calendar/ical/1jhs9db71ncki4sojo7092vfvc%40group.calendar.google.com/public/basic.ics>

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>

| Date, Time & Location                                                                                   | Contact                                                                          | Event                                                                                     |
|---------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Weekly, every Wednesday, from 20:15                                                                     | Martin Cook,<br>Roy Gooding                                                      | Ob.servatory open                                                                         |
| <b>2022</b>                                                                                             |                                                                                  |                                                                                           |
| Monday 28 February                                                                                      | Martin R-H<br><a href="mailto:newbourne@oasi.org.uk">newbourne@oasi.org.uk</a>   | OASI @ Newbourne<br>Sky Notes by Bill Barton FRAS                                         |
| Friday 11th March                                                                                       | Paul Whiting<br><a href="mailto:treasurer@oasi.org.uk">treasurer@oasi.org.uk</a> | Zoom Talk (Recorded)<br>Prof Anna Scaife<br>"Jodrell Bank, the Cold War & the Space Race" |
| Monday 14 March                                                                                         | Martin R-H<br><a href="mailto:newbourne@oasi.org.uk">newbourne@oasi.org.uk</a>   | OASI @ Newbourne                                                                          |
| Thursday 17 March                                                                                       | Paul Whiting<br><a href="mailto:treasurer@oasi.org.uk">treasurer@oasi.org.uk</a> | OASI on Zoom                                                                              |
| Saturday 19 March<br>Kettering Conference Centre, Thurston Drive, Kettering, Northamptonshire, NN15 6PB | <a href="https://practicalastroshow.com/">https://practicalastroshow.com/</a>    | Practical Astronomy Show 2022                                                             |
| Monday 28 March                                                                                         | Martin R-H<br><a href="mailto:newbourne@oasi.org.uk">newbourne@oasi.org.uk</a>   | OASI @ Newbourne<br>Sky Notes by Bill Barton FRAS                                         |

| Date, Time & Location | Contact                                                                          | Event                                                                                           |
|-----------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Friday 15 April       | Paul Whiting<br><a href="mailto:treasurer@oasi.org.uk">treasurer@oasi.org.uk</a> | Zoom Talk (Recorded)<br>with Dr Katie Mac<br>“The End of Everything (Astrophysically Speaking)” |
| Thursday 21 April     | Paul Whiting<br><a href="mailto:treasurer@oasi.org.uk">treasurer@oasi.org.uk</a> | OASI on Zoom                                                                                    |

## Meetings via Zoom

Paul Whiting has set up an OASI account on Zoom Pro which allows us to accommodate more participants.. To join, please first contact Paul, [treasurer@oasi.org.uk](mailto:treasurer@oasi.org.uk) – OASI members only. Be sure to install/update to the latest version of Zoom – there’s no need to set up an account. Go to <https://zoom.us/join> and enter the meeting ID or personal link name. You will have received a link from the meeting organiser.

## OASI @ Newbourne

**Martin Richmond-Hardy** [newbourne@oasi.org.uk](mailto:newbourne@oasi.org.uk)

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

In view of the ongoing Covid situation, we kindly request that attenders wear masks in the village hall to protect others and themselves. Hand gel is available.

### Newbourne dates for 2022

|           |    |                                  |
|-----------|----|----------------------------------|
| March     | 14 | 28 (A)                           |
| April     | 11 | 25 (A)                           |
| May       | 9  | 23 (A)                           |
| June      | 13 | 27 (A)                           |
| July      | 11 | 25 (A)                           |
| August    | 8  | 22 (A)                           |
| September | 12 | 26 (A)                           |
| October   | 10 | 24 (A)                           |
| November  | 14 | 28 (A)                           |
| December  | 12 | 26 (may omit as it's Boxing Day) |

We open up for all meetings at 7:30pm. Astro News/Star Guide (A) at 7:45pm followed by any Talks (T), Workshops (W) and the occasional Quiz (Q).

## Stargazer's Guide

On the last meeting each month, at 19:45, Bill Barton FRAS will give a short presentation of what can be viewed in the following 4 weeks plus a reminder of OASI events. These will be available on our website.

## Astronomy Workshops/Informal talks

Meetings will depend on COVID-19 situation.

Contact Mike Whybray Monday meetings start at 7:30pm. Workshops / Talks start at 8pm

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.

Do you have a subject you could workshop/talk? You could do a short one, or share the effort with a partner. Drop Mike Whybray a line! [workshops@oasi.org.uk](mailto:workshops@oasi.org.uk)

## Lectures – via Zoom

Contact: Peter Richards [lectures@oasi.org.uk](mailto:lectures@oasi.org.uk)

The start time for all talks will be 8pm and, as usual, the talks will usually be held on a Friday evening.

All meetings are currently via Zoom. Contact Paul Whiting if you can't find the details.

## Athaneum Astro Society

[www.3a.org.uk/index.htm](http://www.3a.org.uk/index.htm)

Meetings suspended during the Covid-19 situation.

## LYRA Lowestoft & Yarmouth Regional Astronomers

[www.lyra-astro.co.uk](http://www.lyra-astro.co.uk)

Due to current Corona Virus outbreak all LYRA meetings are cancelled until further notice.

## DASH Astro

**Darsham And Surrounding Hamlets** <http://dash-astro.co.uk>

Meetings are normally held at New Darsham Village Hall and 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 from 7:30 pm. on Sundays.

Meetings will be assessed in line with the current Government Guidelines in place at the time.

## BAA news & webinars

For full details of all meetings or cancellations, please go to <https://britastro.org/meetings/2022>.

### 2022

|                                    |                                                                                        |
|------------------------------------|----------------------------------------------------------------------------------------|
| Wednesday March 16 – 19:00         | The history of silvering telescope mirrors. Howard Banich will lead this webinar.      |
| Saturday, March 19 (09:00 – 17:00) | Practical Astronomy Show 2022, Kettering                                               |
| Wednesday March 30 – 17:30         | Special General Meeting and Ordinary Meeting                                           |
| Friday April 8 – 19:00             | The 2022 Winchester weekend at Sparsholt College, Winchester                           |
| Saturday April 23 (All day)        | BAA Spring Meeting, Leeds                                                              |
| Saturday May 24 14:00              | Historical Section Webinar by Professor Wayne Orchiston and Darunee Lingling Orchiston |
| Wednesday May 25 – 17:30           | BAA Special General Meeting, Ordinary Meeting & George Alcock Memorial Lecture         |

## The BAA Radio Astronomy Section

Thanks to an initiative by Paul Hearn, the BAA Radio Astronomy Section have been enjoying talks, seminars and tutorials via Zoom.

These are/will be available on the BAA YouTube channel.

<https://www.youtube.com/user/britishastronomical/playlists>



## From the Interweb

Article about JWST here: <https://astronomynow.com/2022/01/25/webb-reaches-lagrange-point-2-setting-stage-for-mirror-alignment/> HT to Mike Whybray

"All things all sky" Eric Walker, Chairman of Highlands Astronomical Society, 'All Things All Sky' takes you on the journey experienced by Eric during the construction, setup, use, and incredible images achieved by Highlands Astronomical Society's All Sky Camera which is located on the roof of his house in Conon Bridge in the north of Scotland. The recording is available to watch on the BAA YouTube channel:  
<https://youtu.be/2M0slkvn-nA>

Observatories in Ukraine <https://www.go-astronomy.com/observatories-ukraine.php>

Kharkov <http://www.astron.kharkov.ua/index.html>

Chuhuiv Observational Station <http://www.astron.kharkov.ua/grakovo/index.html>

Mykolaiv Observatory <http://nao.nikolaev.ua/>



# The Night Sky in March 2022

Martin RH

All event times (UTC) are for the location of Orwell Park Observatory 52.0096°N, 1.2305°E.

**BST starts 02:00 Sunday 27 March and times thereafter are BST unless otherwise stated.**

## Sun, Moon and planets

Sources:

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

| Object  | Date | Rise  | Set   | Mag. | Notes                                                                                                              |
|---------|------|-------|-------|------|--------------------------------------------------------------------------------------------------------------------|
| Sun     | 1    | 06:41 | 17:35 |      | Spring Equinox Mar 20, 15:33                                                                                       |
|         | 31   | 06:33 | 19:27 |      |                                                                                                                    |
| Moon    | 1    | 06:48 | 15:47 |      | New Moon 02 March 17:35<br>First Quarter 10 March 10:45<br>Full Moon 18 March 07:18<br>Last Quarter 25 March 05:37 |
|         | 31   | 06:45 | 18:31 |      |                                                                                                                    |
| Mercury | 1    | 06:11 | 15:05 | 0    | Superior Conjunction 02 April                                                                                      |
|         | 31   | 06:42 | 19:02 | -1.6 |                                                                                                                    |
| Venus   | 1    | 04:37 | 13:34 | -4.4 | Max. western elongation 20-March                                                                                   |
|         | 31   | 05:11 | 14:58 | -4.2 |                                                                                                                    |
| Mars    | 1    | 05:15 | 13:08 | 1.3  |                                                                                                                    |
|         | 31   | 05:15 | 14:17 | 1.1  |                                                                                                                    |
| Jupiter | 1    | 06:58 | 17:41 | -1.9 | Superior Conjunction 05 March                                                                                      |
|         | 31   | 06:12 | 17:24 | -1.9 |                                                                                                                    |
| Saturn  | 1    | 06:11 | 15:16 | 0.8  |                                                                                                                    |
|         | 31   | 05:20 | 14:36 | 0.9  |                                                                                                                    |
| Uranus  | 1    | 08:35 | 23:11 | 5.8  |                                                                                                                    |
|         | 31   | 07:40 | 22:21 | 5.9  |                                                                                                                    |
| Neptune | 1    | 07:13 | 18:28 | 8    | Superior Conjunction 13 March                                                                                      |
|         | 31   | 06:17 | 17:37 | 8    |                                                                                                                    |

## Occultations during March 2022

[https://iota-es.de/moon/grazing\\_descrx101.html](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 March 2022

Source: BAA Handbook 2021 p26-27 and <https://in-the-sky.org/newsindex.php?feed=meteors>

| Shower         | Normal limits | Maximum | Max RA/Dec.° | ZHR at Max | Notes |
|----------------|---------------|---------|--------------|------------|-------|
| Only sporadics |               |         |              |            |       |

For radio observation, use reflections from Graves radar on 143.050MHz or the Brams transmitter in Belgium on 49.97MHz. See also [https://www.popastro.com/main\\_spal/meteor/radio-meteor-observing-2020/](https://www.popastro.com/main_spal/meteor/radio-meteor-observing-2020/)

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

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

Times are UTC until 27 March then BST. Predictions are approximate (28 February) due to craft adjustments. Check the day before.

| Date                   | Bright-ness<br>(mag) | Start    |      |     | Highest point |      |     | End      |      |     |
|------------------------|----------------------|----------|------|-----|---------------|------|-----|----------|------|-----|
|                        |                      | Time     | Alt. | Az. | Time          | Alt. | Az. | Time     | Alt. | Az. |
| <a href="#">01 Mar</a> | -3.7                 | 04:32:19 | 73°  | SE  | 04:32:19      | 73°  | SE  | 04:35:33 | 10°  | E   |
| <a href="#">01 Mar</a> | -3.7                 | 06:05:33 | 10°  | W   | 06:08:56      | 78°  | S   | 06:12:19 | 10°  | ESE |
| <a href="#">02 Mar</a> | -1.4                 | 03:46:12 | 23°  | E   | 03:46:12      | 23°  | E   | 03:47:37 | 10°  | E   |
| <a href="#">02 Mar</a> | -3.8                 | 05:19:08 | 24°  | W   | 05:21:01      | 85°  | S   | 05:24:24 | 10°  | E   |
| <a href="#">03 Mar</a> | -3.9                 | 04:33:00 | 85°  | SW  | 04:33:04      | 87°  | S   | 04:36:26 | 10°  | E   |
| <a href="#">04 Mar</a> | -1.6                 | 03:46:52 | 26°  | E   | 03:46:52      | 26°  | E   | 03:48:29 | 10°  | E   |
| <a href="#">04 Mar</a> | -3.7                 | 05:19:47 | 21°  | W   | 05:21:51      | 68°  | SSW | 05:25:12 | 10°  | ESE |
| <a href="#">05 Mar</a> | -3.9                 | 04:33:40 | 73°  | WSW | 04:33:54      | 79°  | S   | 04:37:16 | 10°  | ESE |
| <a href="#">06 Mar</a> | -1.8                 | 03:47:33 | 28°  | E   | 03:47:33      | 28°  | E   | 03:49:17 | 10°  | E   |
| <a href="#">06 Mar</a> | -3.2                 | 05:20:29 | 19°  | W   | 05:22:33      | 43°  | SSW | 05:25:45 | 10°  | SE  |
| <a href="#">07 Mar</a> | -3.7                 | 04:34:26 | 55°  | SSW | 04:34:36      | 55°  | SSW | 04:37:54 | 10°  | ESE |
| <a href="#">08 Mar</a> | -1.8                 | 03:48:25 | 25°  | ESE | 03:48:25      | 25°  | ESE | 03:49:58 | 10°  | ESE |
| <a href="#">08 Mar</a> | -2.4                 | 05:21:21 | 16°  | WSW | 05:23:02      | 24°  | SSW | 05:25:48 | 10°  | SSE |
| <a href="#">09 Mar</a> | -2.8                 | 04:35:27 | 32°  | SSW | 04:35:27      | 32°  | SSW | 04:38:12 | 10°  | SE  |
| <a href="#">10 Mar</a> | -1.3                 | 03:49:38 | 16°  | SE  | 03:49:38      | 16°  | SE  | 03:50:24 | 10°  | SE  |
| <a href="#">17 Mar</a> | -1.6                 | 19:43:38 | 10°  | S   | 19:44:37      | 15°  | S   | 19:44:37 | 15°  | S   |
| <a href="#">18 Mar</a> | -1.5                 | 20:31:00 | 10°  | SW  | 20:32:04      | 18°  | SW  | 20:32:04 | 18°  | SW  |
| <a href="#">19 Mar</a> | -3                   | 19:43:03 | 10°  | SW  | 19:46:09      | 34°  | SSE | 19:46:21 | 34°  | SE  |
| <a href="#">20 Mar</a> | -2.5                 | 18:55:14 | 10°  | SSW | 18:58:03      | 25°  | SSE | 19:00:29 | 12°  | E   |
| <a href="#">20 Mar</a> | -2.7                 | 20:31:08 | 10°  | WSW | 20:33:25      | 39°  | WSW | 20:33:25 | 39°  | WSW |
| <a href="#">21 Mar</a> | -3.7                 | 19:42:58 | 10°  | WSW | 19:46:17      | 58°  | SSE | 19:47:23 | 36°  | E   |
| <a href="#">21 Mar</a> | -0.9                 | 21:19:37 | 10°  | W   | 21:20:19      | 15°  | W   | 21:20:19 | 15°  | W   |
| <a href="#">22 Mar</a> | -3.3                 | 18:54:53 | 10°  | SW  | 18:58:07      | 44°  | SSE | 19:01:16 | 11°  | E   |

| Date                   | Bright<br>-ness<br>(mag) | Start    |      |     | Highest point |      |     | End      |      |     |
|------------------------|--------------------------|----------|------|-----|---------------|------|-----|----------|------|-----|
|                        |                          | Time     | Alt. | Az. | Time          | Alt. | Az. | Time     | Alt. | Az. |
| <a href="#">22 Mar</a> | -3.3                     | 20:31:22 | 10°  | W   | 20:34:11      | 59°  | W   | 20:34:11 | 59°  | W   |
| <a href="#">23 Mar</a> | -3.8                     | 19:43:06 | 10°  | WSW | 19:46:29      | 80°  | S   | 19:47:58 | 31°  | E   |
| <a href="#">23 Mar</a> | -1.1                     | 21:19:51 | 10°  | W   | 21:20:53      | 18°  | W   | 21:20:53 | 18°  | W   |
| <a href="#">24 Mar</a> | -3.7                     | 18:54:52 | 10°  | WSW | 18:58:14      | 69°  | SSE | 19:01:36 | 10°  | E   |
| <a href="#">24 Mar</a> | -3.5                     | 20:31:34 | 10°  | W   | 20:34:35      | 67°  | WSW | 20:34:35 | 67°  | WSW |
| <a href="#">25 Mar</a> | -3.8                     | 19:43:17 | 10°  | W   | 19:46:40      | 86°  | S   | 19:48:15 | 29°  | E   |
| <a href="#">25 Mar</a> | -1.2                     | 21:20:03 | 10°  | W   | 21:21:10      | 19°  | W   | 21:21:10 | 19°  | W   |
| <a href="#">26 Mar</a> | -3.7                     | 18:54:58 | 10°  | W   | 18:58:21      | 85°  | S   | 19:01:45 | 10°  | E   |
| <a href="#">26 Mar</a> | -3.5                     | 20:31:44 | 10°  | W   | 20:34:47      | 59°  | SW  | 20:34:47 | 59°  | SW  |
| <a href="#">27 Mar</a> | -3.8                     | 20:43:24 | 10°  | W   | 20:46:47      | 74°  | SSW | 20:48:24 | 28°  | ESE |
| <a href="#">27 Mar</a> | -1.1                     | 22:20:18 | 10°  | W   | 22:21:18      | 16°  | W   | 22:21:18 | 16°  | W   |
| <a href="#">28 Mar</a> | -3.7                     | 19:55:04 | 10°  | W   | 19:58:27      | 83°  | S   | 20:01:50 | 10°  | E   |
| <a href="#">28 Mar</a> | -2.8                     | 21:31:51 | 10°  | W   | 21:34:54      | 38°  | SSW | 21:34:54 | 38°  | SSW |
| <a href="#">29 Mar</a> | -3.3                     | 20:43:28 | 10°  | W   | 20:46:46      | 50°  | SSW | 20:48:30 | 24°  | SE  |
| <a href="#">29 Mar</a> | -0.9                     | 22:20:58 | 10°  | WSW | 22:21:24      | 12°  | WSW | 22:21:24 | 12°  | WSW |
| <a href="#">30 Mar</a> | -3.5                     | 19:55:06 | 10°  | W   | 19:58:26      | 64°  | SSW | 20:01:47 | 10°  | ESE |
| <a href="#">30 Mar</a> | -1.9                     | 21:32:10 | 10°  | W   | 21:34:47      | 21°  | SW  | 21:35:01 | 21°  | SSW |
| <a href="#">31 Mar</a> | -2.3                     | 20:43:35 | 10°  | W   | 20:46:34      | 29°  | SSW | 20:48:40 | 16°  | SSE |

## Starlink passes

<https://heavens-above.com/AllPassesFromLaunch.aspx>

For a dynamic 3-D display, see <https://heavens-above.com/StarLink.aspx>

## Comets with magnitude brighter than magnitude 10

Source: <https://heavens-above.com/Comets.aspx> and BAA Handbook p95.

| Comet                                                                                                             | Brightness | Peak       |
|-------------------------------------------------------------------------------------------------------------------|------------|------------|
| 19P Borrelly                                                                                                      | 9.8        | 22 January |
| Comet of the month – 19P/Borrelly <a href="https://britastro.org/node/26579">https://britastro.org/node/26579</a> |            |            |

## Astronomy on the radio

### 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>

### David Murton's Radio Broadcast

On 1st Tuesday of the month, 2.40pm on the Lesley Dolphin show on BBC Radio Suffolk and the internet. <https://www.bbc.co.uk/radiosuffolk>

## All-Sky camera reports

**Alan Smith**

An article in the 'Meteor News' this week details a new service online. Well worth a read!

[Visualizing meteor ground tracks on the meteor map | Meteor News](#)

It points to:

[Meteor map \(tammojan.github.io\)](http://tammojan.github.io)

### **Bright fireball 15/2/22 0139hrs UT at magnitude -11.9**

The allsky camera at Grundisburgh captured this event early this morning. The event was also captured by a video camera running in Ipswich and another allsky camera at Oostkappel in the Netherlands. The Dutch Meteor Society (DMS) have performed a preliminary reduction of the event and the track is attached.

The object entered the atmosphere at an altitude of 70.4km before dropping to 29.98km. The maximum brightness reached mag -11.87 at only 36km altitude and entered its dark flight phase at only 12.0 km/sec over the Oosterschelde national park. Lots of water around that area! The DMS are still working on the possibility of a meteorite drop, but looking at the terminal flare I guess its unlikely.

The images show the allsky from Grundisburgh and Oostkapelle (thanks to Klaas Jobse of the DMS), the video is from a friend in Ipswich with a stacked image taken from that video.

UKMON cameras also caught the event and they put the mass of the object at 27.7gms, but show the magnitude as only -3.3. I'm certain that is a significant under estimate.

They also got a slightly different track (composite track attached). Thanks to UKMON for their info.

The UKMON cameras are relatively narrow field of view video equipment, and so they are likely to capture the event before it becomes visible to the allsky and likewise probably would be able to follow it further.

The Allsky camera at Oostkapelle was almost under the object!

The video from Ipswich shows that the event lasted almost 4 secs!

Anybody want to go splashing about in Zeeland for lumps of rock?!

### **Fireball 20220205\_0211hrs UT track**

Attached is the result of the reduction of this event from UKMON and DMS perspective.

Close, but not exactly same tracks. Obviously the UKMON track is based on multiple stations with greater sensitivity so should show earlier start, and if fireball doesn't destroy itself, later end points. In this case I guess that the end was THE end! My image shows 38 breaks which equates to about 2.4 secs.

The DMS track was from only 2 stations, mine at Grundisburgh, and Klass Jobse at Oostkapelle. I don't yet have an image from Klass but have asked!

The velocity from UKMON is an average of 17.5km/s and from DMS 19.57km/s down to 13.94km/sec.

The UKMON estimation of mag -2.0 seems way too low to me. I've observed a fireball at (my estimate) of -4 which barely registered on the allsky camera. I would have put this down as at least -6. Unfortunately there is nothing on IMO.

The Global Meteor Network (GMN) track shows yet another estimate!

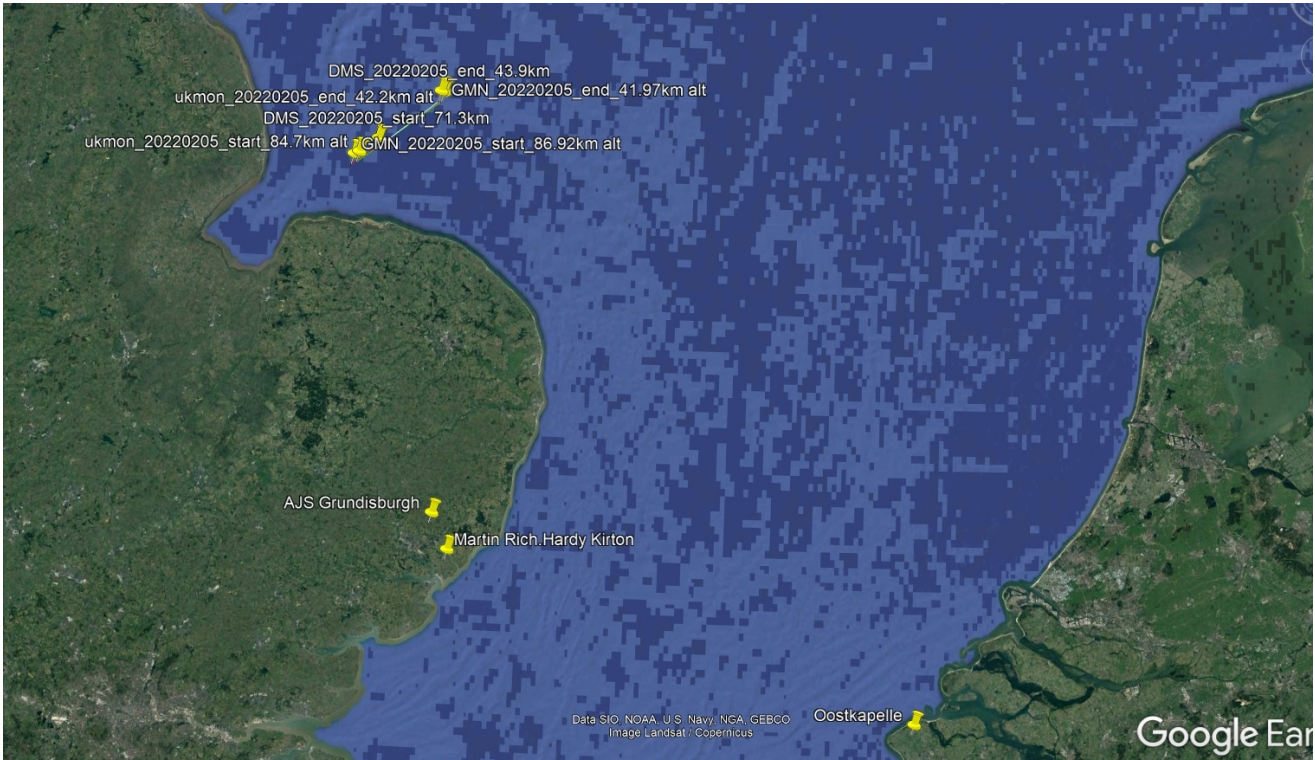
They say duration 3.06secs, mag -2.61, average velocity 19.95km/s

It was a clear night and I'm impressed with the star field from Martin's camera UK0056.

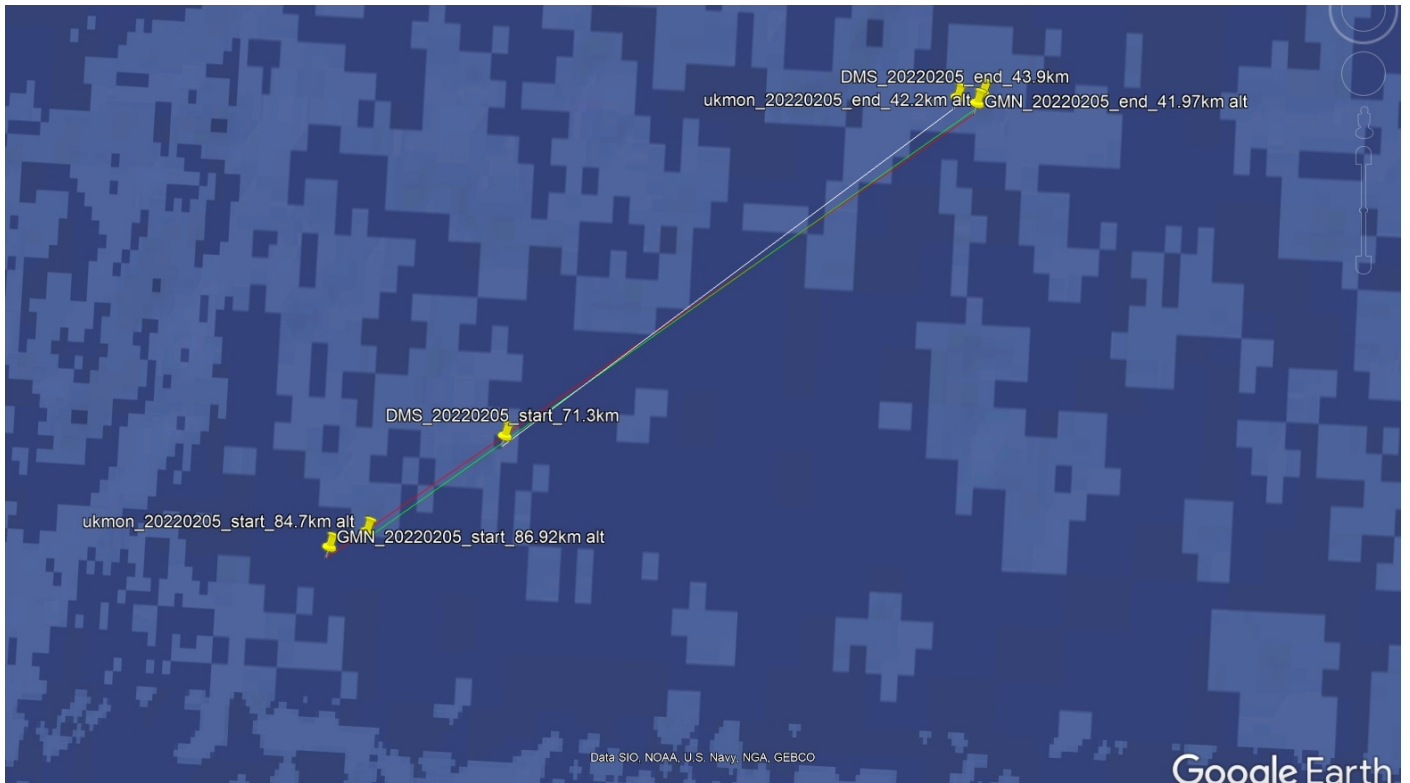




Annotated image from Grundisburgh



Track comparison



**Track comparison close-up**



**Image from UK0056 (Kirton, looking north)**

## **Other UK0056 reports for February – meteors brighter than Mag -1**

**Martin R-H**

All reports for February can be found here:–

<https://archive.ukmeteornetwork.co.uk/reports/2022/orbits/>

### **Orbital Analysis for matched events on 20220205\_021139**

[https://archive.ukmeteornetwork.co.uk/reports/2022/orbits/202202/20220205/20220205\\_021139.811\\_UK/index.html](https://archive.ukmeteornetwork.co.uk/reports/2022/orbits/202202/20220205/20220205_021139.811_UK/index.html)

### **Orbital Analysis for matched events on 20220205\_003453**

[https://archive.ukmeteornetwork.co.uk/reports/2022/orbits/202202/20220205/20220205\\_003453.254\\_UK/index.html](https://archive.ukmeteornetwork.co.uk/reports/2022/orbits/202202/20220205/20220205_003453.254_UK/index.html)

### **Orbital Analysis for matched events on 20220215\_022605**

[https://archive.ukmeteornetwork.co.uk/reports/2022/orbits/202202/20220215/20220215\\_022605.310\\_UK/index.html](https://archive.ukmeteornetwork.co.uk/reports/2022/orbits/202202/20220215/20220215_022605.310_UK/index.html)

### **Orbital Analysis for matched events on 20220225\_042610**

[https://archive.ukmeteornetwork.co.uk/reports/2022/orbits/202202/20220225/20220225\\_042610.083\\_UK/index.html](https://archive.ukmeteornetwork.co.uk/reports/2022/orbits/202202/20220225/20220225_042610.083_UK/index.html)

### **Orbital Analysis for matched events on 20220227\_053439**

[https://archive.ukmeteornetwork.co.uk/reports/2022/orbits/202202/20220227/20220227\\_053439.381\\_UK/index.html](https://archive.ukmeteornetwork.co.uk/reports/2022/orbits/202202/20220227/20220227_053439.381_UK/index.html)



## JWST

**Nigel Evans**

Since it was launched on Christmas day last year, the James Webb Space Telescope (JWST) has been travelling out toward the L2 point some 1.6 million km from the Earth.

Recently I had the opportunity to record it at a distance of some 1.35 million km. I took the ephemeris from [https://projectpluto.com/sat\\_eph.htm](https://projectpluto.com/sat_eph.htm) which showed it was drifting some 1.7 arcsec per minute relative to the stars, limiting the exposure to about 1 minute. In individual frames it was marginal as to whether the JWST could be spotted, so the frames were aggregated 10 at a time and put together as a movie. It has already been noted (<https://britastro.org/node/26452>) that the brightness can vary a lot. Indeed at the very end of my clip there is a flare. The jump in the frames is because of the meridian flip.



For me this is a record in recording a man-made object so far away from the Earth and will only be exceeded by the JWST itself when it is orbiting L2.

## Messier 44, Beehive Cluster

**John Hughes**

I see from the website that I originally took a photo of this star cluster almost 3 years to the day. Never liked the first one, not really impressed with this one either. I might try 30 second exposure in 3 years time!



Messier 44 - Beehive Cluster - 22 February 2022 - North Essex, UK

[essexastronomer.wordpress.com](http://essexastronomer.wordpress.com)

Usual gear;

William Optics Z103 APO refractor, ZWO ASI1600mm Pro Cool camera and Chroma 1.25" filters in RGB. 95 exposure in Red and Blue plus 79 exposures in Green all 1 minute long.

By the way, I have acquired a second hand All Sky Optics camera box into which I have placed my original ASI120mm guide camera. Hopefully when I have sorted out the software and placement in the garden I hope I will be able to share some meteor images too.



## Aurora in Iceland

**Mike Whybray**

Photos taken on a trip to Iceland 8-15th February 2022. Three of aurora taken on 12th when fortuitously a rare clear night coincided with the arrival of a small Coronal Mass Ejection from the sun resulting in an impressive display. It began with a modest green band from East to West low in the North sky. Then shortly after 9pm let rip with sometimes multiple bands and curtains stretching East to West again but much brighter and almost overhead. Like a vast electrical discharge! Mainly green with occasional edging of red on the lower edges. Rather cold viewing at -15C but fortunately we had a hire car to retreat into. Lasted till about midnight when it was starting to die down.

Aurora photos all taken on Canon EOS550D with 14mm F2.8 Samyang lens, stopped down to F3.5. ISO1600. 1 second exposures (with in-camera 1 second dark-frame subtraction).

On a previous trip to Norway I'd been using 10 second exposures but this time the moon was 3/4 full so with this high background brightness plus the bright aurora I had to shorten to 1 second.

Final photo is of the Stokkur geyser spouting – one of the many other things to see in Iceland.

I'm creating time lapse sequences of the aurora which I'll show on a Newbourne evening.









## The Rosette Nebula

**Andy Gibbs**

A good number of clear nights between 7 and 22 January enabled me to gather enough data to compose this image of the Rosette Nebula.



It was captured with narrowband filters and processed in the Hubble palette, (Hydrogen alpha, Green: Sulphur II, Red: Oxygen III, Blue). There were 13x 600 sec exposures in H $\alpha$ , 12x 600sec exposures in SII and 16x 600 sec exposures in OIII.

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

Software used: Sequence Generator Pro and Affinity Photo.



## Imaging X-ray Polarimetry Explorer (IXPE)

### Short article from the library

**Andy Willshire**

The IXPE took off from Cape Canaveral, Florida on the 9<sup>th</sup> December 2021, with a primary mission of two years. It was assisted into space with a Falcon 9 Block 5 rocket. This is a recyclable two stage to orbit propulsion system constructed by SpaceX in the United States. This means that the first stage of the system returns to Earth and can be used many times. The Falcon 9 is powered by cryogenic liquid oxygen and rocket grade kerosene (RP-1), in Merlin 1D SpaceX engines. It is able to lift 22800kg into low earth orbit, and 8300kg into geostationary transfer orbit. This rocket stands 70m tall, with a 3.7 m diameter.

The Imaging X-ray Explorer (IXPE) is part of NASA's Small Explorer commissions, which will undertake for the first time, highly sensitive X-ray polarimetry, to study up-to 50 X-ray sources each year. These sources will range from active galactic nuclei to neutron stars, and will include super nova remnants and stellar-mass black holes, dependent on whether part of the light emitted from these candidates is polarized. For intensely vivid sources such as Pulsar Wind Nebulae IXPE will execute its primary task of X-ray polarimetry.

Its main objectives are as follows:

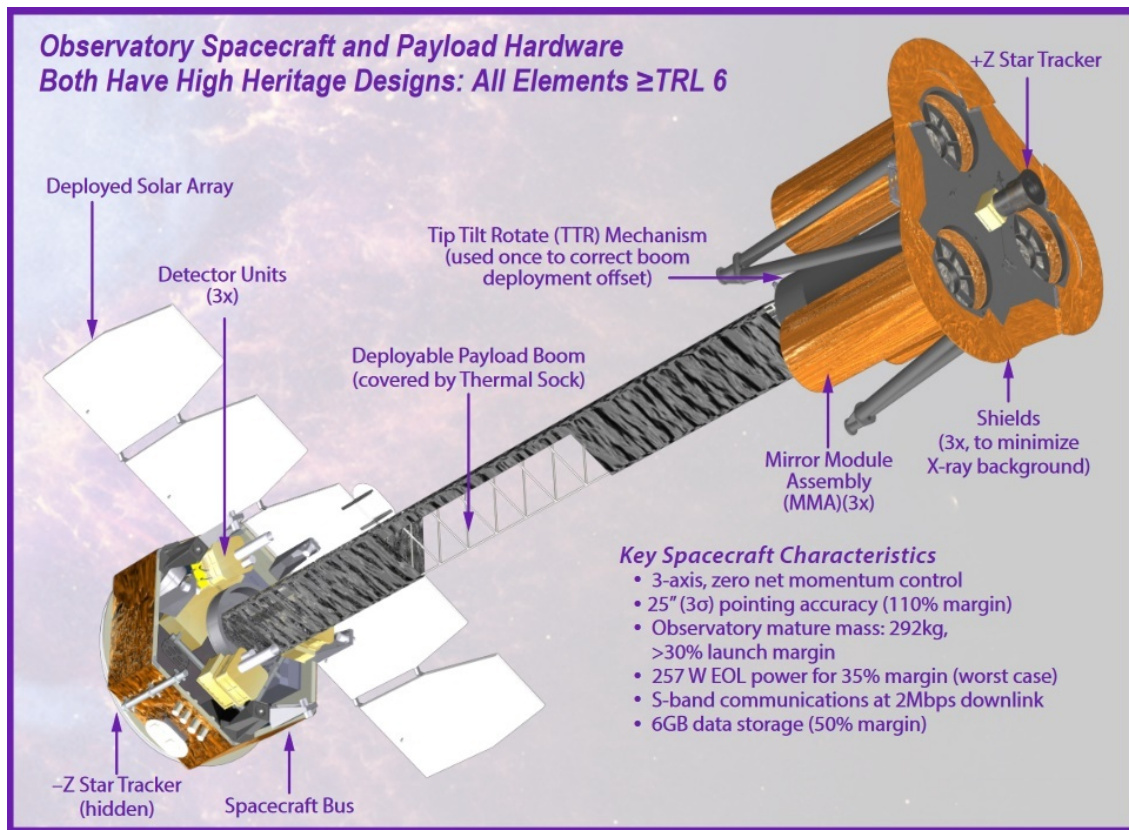
- Providing greater polarization sensitivity than that given by the Orbiting Solar Observatory (OSO-8).
- It will also present spatial, spectral and temporal measurements concurrently.
- Study Active Galactic Nuclei and microquasars providing crucial data concerning both geology and emission processes.
- Seeking out magnetic field configurations in magnetars.
- Identifying pulsars and looking at how X-ray's are produced,
- Deciding what makes particles in Pulsar Wind Nebulae accelerate and finally,
- Study the galactic centre.

IXPE will therefore prove to be an asset to all other research and exploration being dedicated to high-energy astrophysics being performed presently, and by using polarization, gain a greater insight into areas where at present we only have a basic level entry.

What does polarized light mean? Polarized light is an electromagnetic wave, with magnetic and electric fields oscillating in a single direction. The fields in unpolarized light oscillate multi-directionally.

The IXPE system is formed around three identical grazing – incidence X-ray telescopes. affixed to a platform, each one working independently. If they were co-linked, one tiny glitch would render the whole system inoperable. Each has a 4m focal length mirror system obtained by using a boom.

All three focus X-rays into a corresponding chip device, which is able to follow the traces of the photo- electron in the detector gas vapour. This information indicates the dissemination of the initial direction of the electron trace, revealing linear polarization, which is lined up to the source X-rays electric field. The craft will be positioned in a low Earth orbit. In systems designed and operated earlier (OSO-8), synchrotron X-ray emissions were proved to be found in supernova remnants. The level and course of polarization is contingent upon photon energy, magnetic field strength and dissemination effects. X-ray emissions obtained from magnetic fields of  $\geq 10^{11}$  G are intensely polarized, and therefore objects such as strongly magnetised neutron stars will be a natural objective for this mission.



Picture credit: [nasaspaceflight.com](http://nasaspaceflight.com)

### Telescope Data:

Wavelength – Xray

Mirror mass – 18.6 Kg each

Telescope mass – 27.5 Kg

Energy range- 2-8 KeV

Field of view - >11 arcmin

Angular resolution -  $\leq 30''$  arcsec

Putting IXPE into space will provide the facility to boldly go and find new enterprises in X-ray astronomy. Adding polarimetry to an already impressive batch of tests will allow scientists to glean greater knowledge using its imaging potential.

### References

<https://ixpe.msfc.nasa.gov>

[https://www.nasa.gov/mission\\_pages/ixpe/index.html](https://www.nasa.gov/mission_pages/ixpe/index.html)

[https://asd.gsfc.nasa.gov/archive/ixo/resources/Published\\_Papers/D](https://asd.gsfc.nasa.gov/archive/ixo/resources/Published_Papers/D)

<https://www.sciencedirect.com/science/article/pii/S221137971630448X>

[https://www.wastro.msfc.nasa.gov/ixpe/for\\_scientists/presentations/](https://www.wastro.msfc.nasa.gov/ixpe/for_scientists/presentations/)

## Roy Gooding – 50 years service to OASI

### From the Chairman

Roy became a member of OASI in 1972 and has served as Secretary since 1981, this is an incredible achievement.

I'm sure that everyone who has known Roy, over these years, has their own story to tell about his dedication to our Society.

When I joined OASI in 2012, Roy was quick to welcome me to the Observatory, helping me to integrate in to the Society and to encourage me to join in with various activities. Since I became Chairman, in 2019, Roy has continued to offer me helpful advice. This is something that Roy continues to do with all new members.

Roy is involved in organising outreach events for the Society and is always keen on promoting OASI to a wider audience. He also organises and takes bookings for our Annual Christmas Meal, which sadly, due to Covid, we have missed for the last two years. Let's hope we finally be able to hold our Christmas meal this year.

So, fifty years as a member, forty as Secretary, and still going strong! I would like to say Thank You! For all your past and continuing hard work, from everyone at Orwell Astronomical Society, Ipswich.

Andy Gibbs, Chairman

### From the Trustees

On behalf of the Trustees, I would like to thank Roy Gooding for his exceptional commitment to OASI over many years. He has served on the Committee as Secretary for more than 40 years and been the focal point for many of the Society's activities. This has included: interviews on local radio, organising excursions for members, arranging, encouraging and supporting outreach events in the local community, encouraging members to help with observatory maintenance, tracking the use of the observatory and other events, AGM minutes, and chasing us for menu choices (not to mention deposits) for the annual Christmas meal! When I took on the role of Chairman in 2009, Ken Goward, my predecessor gave me very specific advice: "Always listen to Roy". That advice very much stands. Roy shows us all what OASI is about. Here's to the next 40 years!

Neil Morley



**Roy being presented with an astrolabe by Chairman Andy**