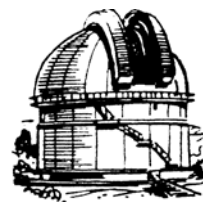

Journal

of the

Nottingham Astronomical Society
December 2016



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Thursday, December 1st

**British Geological Survey
Nicker Hill, Keyworth**

8 pm (doors open at 7.30pm)

Tonight we welcome

Dr Marek Kukula



**of the Royal Greenwich Observatory
who will be speaking on**

**Galactic Monsters:
Seyfert Galaxies, Radio Galaxies
and Quasars**

Messier 8: The Lagoon Nebula

A giant interstellar gas cloud in the constellation of Sagittarius...



...celebrated in verse (at long last) in this issue of the NAS Journal (*see page 7*)

Sky Notes

December 2016

Compiled by Roy Gretton



All times given below are in Universal Time (Greenwich Mean Time)

PHASES OF THE MOON

<i>Phase</i>	<i>Date and time</i>
First Quarter	9:03am on December 7 th
Full Moon	12:06am on the 14 th
Last Quarter	1:56am on the 21 st
New Moon	6:53am on the 29 th

This month the Moon is closest to the Earth on the 12th and furthest on the 25th.

THE PLANETS

Although **Mercury** reaches greatest eastern elongation on December 11th, and will be an evening object for most of the month, it will be almost impossible to observe from our latitude, due to its southerly declination (-25 degrees as December begins).

Venus is on the brink of putting on a magnificent display for us as we head toward the end of the year. At the start of December it will still be 23 degrees south of the equator, but by the end of the month it will have climbed to declination -14 degrees, and will be visible for over three hours after the Sun sets. It will still be fairly low down in the south-southwest, but at magnitude -4.3 will be easy to spot in a clear sky.



Looking south
at 5:30pm on
Christmas Day

Mars continues to hang very low in the evening sky, but, reluctant to disappear altogether, it will remain above our horizon for five hours after sunset in mid-December. Although well advanced in its current apparition, Mars will actually be higher in our sky (about 24 degrees as darkness falls) at the end of December than it was at the start of November. By then its tiny disk will be less than 6 arcseconds across, and its magnitude will have faded to +1. In this diminishing condition, Mars will continue to be visible throughout the coming spring, eventually shrinking to an apparent diameter of less than 4 arcseconds, even smaller than Uranus is at opposition!

Jupiter, not far from Spica in the constellation of Virgo, is a prominent object in the morning sky. In mid December, Jupiter won't be rising until about half-past-two in the morning, so detailed observation in the pre-dawn period will be reserved for hardy individuals who can tolerate the temperatures normally associated with a clear sky in the "wee small hours" at this time of year. By the close of the month Jupiter's equatorial diameter will have increased to 35 arcseconds, and its magnitude will be close to -2.

Saturn reaches conjunction with the Sun on December 10th, and thus is unobservable this month.

Uranus, shining at magnitude 5.8 in the constellation of Pisces, is well placed for observation in the evening, being situated due south at about 8 pm in mid-December.

Neptune, at magnitude 7.9 a much fainter object than Uranus, is due south at about 6 pm in mid-month.

METEORS

Unfortunately our most prolific meteor shower of the year, the **Geminids**, reaches its peak of activity on the night of the Full Moon, so we won't say much about it this year! However, if you are prepared to wait 12 months, conditions for the shower in 2017 will be very favourable indeed!

A minor shower, the **Ursids**, peaks on the night of December 22-23rd, when a handful of events per hour may be expected. Conditions by then will be favourable, with the Moon a waning crescent in the morning sky.

The Nottingham Astronomical Society: E - SERVICES

Whether or not you are a NAS member, you can keep up to date with details of the Society's meetings and other events by visiting the NAS website:

www.nottinghamastro.org.uk

NAS on Facebook

You are welcome to connect with other members and friends of the NAS on Facebook by going to:

<http://www.facebook.com/nas.org.uk>

NAS on Twitter

The Society has a Twitter account at <https://twitter.com/NottinghamAstro>

NAS Journal e-mailing list

To register for your monthly e-mailed copy of the NAS Journal, just e-mail secretary@nottinghamastro.org.uk

You don't have to be a Society member to take advantage of this service.

NOTE to NAS Members and Journal Subscribers

If you happen to change your email address, please remember to inform the Society by emailing us at treasurer@nottinghamastro.org.uk

DIARY DATES 2017

Monthly Meetings of the Nottingham Astronomical Society

1) Meetings at the British Geological Survey, Keyworth

Nicker Hill, Keyworth, Nottingham, NG12 5GG

Held on the **FIRST** Thursday of each month except **August**

Doors open at 7:30pm for 8pm start.

*These events are normally centred around a talk by a visiting speaker, except Opening Evenings, when NAS members provide the activities. Normally we have a **Library** and a **Helpdesk** open at each meeting.*

<u>Date</u>	<u>Topic</u>	<u>Speaker</u>
January 5 th	Open Evening with a New Year Quiz	
February 2 nd	Passage Graves Ancient telescopes without lenses	Dr Dan Brown Nottingham Trent University
March 2 nd	Finding Exoplanets with Small Telescopes	Dr Peter Wheatley University of Warwick
April 6 th	The Art of Astrophotography	Prof Ian Morison University of Manchester
May 4 th	Juno: Exploring the Mysteries of Jupiter	Prof Emma Bunce University of Leicester
* June 1 st	Charles Messier	Dr Allan Chapman, FRAS
July 6 th	Gravitational Waves	Dr Ed Daw University of Sheffield
August 5 th (SATURDAY)	BBQ at the Observatory (members and guests only)	
September 7 th	Galaxy Evolution revealed by the Hubble Space Telescope	Dr Clive Tadhunter University of Sheffield
October 5 th	Space Stations from Salyut to the ISS	Dr Mike Leggett, FRAS
November 2 nd	Annual General Meeting	
*December 7 th	Voyager 40 Years On (Part 1)	Paul Money, FRAS

***Details subject to confirmation**

Check our website: www.nottinghamastro.org.uk
for the latest information about the Society's meetings
and for further information about the talks and speakers.

2) Social and Practical Astronomy Meetings at the Burnside Memorial Hall, Plumtree

Church Hill, Plumtree, Nottingham, NG12 5ND

Held on the **THIRD** Thursday of each month

Doors open at 7:30pm for 8pm start.

These meetings are of a more informal nature, providing opportunity for members and guests to share their hobby over a cup of tea or coffee

The next meeting is on December 15th

Sierra de la Pila Star Party

This event is free to attend

The format of the event is as follows:

Outdoor camping next to Sierra de la Pila. The exact location is here:
Casa de Poladilla, 30559 Abarán, Murcia, Spain - paste that into Google and it should take you straight there.

There are no facilities, so bring your own water and it'll be spades for toilets!
(That said I'm looking at getting some sort of temporary bio loo installed so hopefully it won't be quite as basic as spades).

When: **Friday 24th to Monday 27th March 2017.**

I'll be there from around lunchtime on the Friday until the Sunday afternoon, to give everyone access and to close down.

Getting there: The nearest two airports are Alicante and Murcia San Javier. It's about a one hour drive to the farm from either. There is no public transport to the farm so you'll need to hire a car. You'll be able to pick up and drop off the car at the airport, and hire cars are quite cheap in Spain.

Equipment: I'll have my vixen giant deep sky binoculars and my meade LX200 EMC 12inch. Obviously if you have a favourite travel scope bring that.

This will be the first star party to be held on this land so it'll be an exciting occasion for me. If you are interested please contact me at the address below so that I can get an idea of the numbers.

Dave Sarras

dave.sarras@npae.net

Social and Practical Astronomy

The third meeting of Social and Practical Astronomy was another great success. We had about 25 talks on various Messier objects, and I think we all learnt something new. The talks were from people new to astronomy as well as from seasoned amateur astronomers; we even had a poem on Messier 8, the Lagoon Nebula, which member Gareth Davies wrote and delivered. This excellent poem is reproduced below with Gareth's permission. Thank you to everyone who gave a talk.

These mid-monthly meetings have been very successful and as such we have booked the venue for every third Thursday for 2017. I've been given some ideas for talks or practical sessions, but the success of these meetings very much depends on the contribution from the membership, so please do let me know if you have an idea for a session or if you have a talk or practical session you could deliver.

The December meeting is on Thursday 15th December 2017 and the doors will open at 19:30.

Pete Hill will be talking on "Experiences of monitoring Meteors by radar", and Lynda Foot will tell us about the Star of Bethlehem. I won't be there at the December meeting but Lynda is kindly going to comper the evening in my absence.

If the November talk stimulated your interest in Messier, there are various books about his catalogue, including the following two which are both excellent:

**Messier's Nebulae & Star Clusters*; Kenneth Glyn Jones. ISBN 978-0521058490
A simple to read guide to all of the Messier objects, which includes images of them, as well as detailed descriptive text about their origins and how to observe them. Second hand copies of the 1991 edition can be found for about £14; copies of the 2008 edition are about £45.

**Atlas of the Messier Objects: Highlights of the Deep Sky*; Ronald Stoyan et al. ISBN 978-0521895545. This is a much bigger and more colourful and glossy book with more impressive images of all of the Messier objects, though still contains text about how the objects formed and in which constellations they can be found. It carries a significantly greater price tag, though is a truly lovely book. Second hand copies can be found for about £45.

James Dawson
NAS Helpdesk

Messier 31 and Isaac Roberts

by Sam Boote

There is an interesting grave in Flaybrick Cemetery in Birkenhead, containing the remains of Isaac Roberts (1829-1904).

Roberts, originally from Wales, was a Liverpool businessman who, as an amateur astronomer, became a pioneer in astrophotography. With his home-made telescope he took the first good photographs of M42 (Orion Nebula) and M45 (Pleiades) and then moved on to photographing M31 (Andromeda galaxy). Although M31 was at that time thought to be a nebula, Roberts believed that the spiral structure revealed in his photographs showed a solar system in formation, with the satellite galaxies M32 and M110 being planets in formation.

Roberts is buried at Flaybrick in an elaborate grave bearing witness to his astronomical achievements. The Andromeda "nebula" which took much of his attention is described on the headstone, accompanied by an image of it (shown below).

See <http://www.wirralhistory.net/flaybrick1.html> for more information, though it's difficult to make out the inscription on the headstone from the website. I worked at nearby Bidston Observatory (now closed) from 1980 to 1985 - this was once a main centre for oceanographic research and tidal computations.



M8 - The Lagoon Nebula or What You Will

One night in 1654,
Giovanni Hodierna went outdoors.
He saw a glowing patch of sky;
At Mag +6 it was just naked eye.
He went back in and made a note
But sadly the world ignored what he wrote.
Fast forward a hundred years or so
To a Frenchman who also noticed the glow.
This comet hunter thought it was so great
He put it in his catalogue at number eight!
Charles Messier was this astronomer's name,
At last the Lagoon Nebula had found fame.
What was it that these guys avowed?
Why, an enormous interstellar cloud!
In a position quite precarious
On the outskirts of Sagittarius.
And, for whatever it's worth,
It's 4000 lights years from the Earth.
So it might look quite small my friend
But it's 110 light years from end to end.
What more can there be to say
About this emission nebula far away?
Too much before my poem's completion
To say about all of its star accretion.
A final thought before I go:
It's in the sky so very low
That in the summer it's very hard
To see the damn thing from my back yard!

Gareth Davies

Social and Practical Astronomy 2017

I'm planning to theme one of the mid-monthly Social and Practical Astronomy meetings on our nearest celestial neighbour, the Moon. I'm looking for three or four people to each give a short talk (10-15 minutes) on one of a number aspects about the Moon. As always you don't need to be an expert to give the talks as much of the material can be researched from books or online. I want the talks to be a prompt for discussion amongst the group.



If you are interested in helping with one or more of these potential topics let me know. I really do need members to help with these sessions and I am happy to help prepare and research the talks and to help deliver them. I suspect the Moon will be the theme for the January or February meeting, but this isn't set in stone. The topics I am thinking of include:

- * Theories of how the Moon formed
- * The lunar cycle
- * The lunar features and how they formed (mare, craters, rilles etc)
- * Observing the Moon - what to look out for.

Please do get in touch with me if you would be willing to help out with this.

James Dawson, Helpdesk,
helpdesk@nottinghamastro.org.uk

Advertisement

FOR SALE

Set of four 1¼-inch coloured filters (red, yellow, green, blue)	£20
Mars filter 1¼-inch	£10
Moon filter 1¼-inch (25% transmission)	£10
Filter case (holds up to four 1¼-inch filters)	£2
Celestron lens pen	£2
Micro-fibre cleaning cloth	£2

Sam Boote s.boote@bcs.org or at Society meetings

Nottingham Astronomical Society

Affiliated to the British Astronomical Association
Member of the Federation of Astronomical Societies
Member of the Society for Popular Astronomy
Supporters of the Commission for Dark Skies
Registered Charity No: 1066645

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(vacant post; Acting Director: John Hurst)

email: observatory@nottinghamastro.org.uk

Observatory line: 07726 940700 (line open during observing sessions)

ORDINARY COMMITTEE MEMBERS:

Barrie Chacksfield

Lynda Foot

Meetings

Our meetings, often with an illustrated talk by a guest speaker, are held on the first Thursday of each month (except in August) at:

The British Geological Survey
Nicker Hill
Keyworth
Nottingham NG12 5GG

Doors open 7.30pm
Meetings start 8.00pm
Meetings end 10.00pm

Meetings are open to the public, and visitors are welcome to attend.

Annual subscriptions 2017

Full	£30
Joint rate for partners living at the same address	£45
Under-18s and full-time students	£5

Subscriptions become due on 1st January. Half-price subscription is charged if joining after 30th June (minimum subscription £5).

Please make cheques payable to:
Nottingham Astronomical Society.

If you would like more information about the **Nottingham Astronomical Society**, or would like to become a member, please contact the Secretary secretary@nottinghamastro.org.uk or speak to any NAS committee member at one of the regular monthly meetings. A membership application form is inside this issue of the Journal.

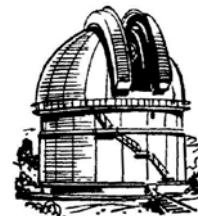
The Nottingham Astronomical Society

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NOTTINGHAM ASTRONOMICAL SOCIETY

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Membership application and Gift Aid declaration

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Subscription rate:	Full	£30.00	(year)	£15.00	(half year)
	Partnership	£45.00	(year)	£22.50	(half year)
	Under-18 and full-time students	£5			

Partnership = two members living together as a couple at the same address

I wish my subscriptions to be eligible for Gift Aid **Yes / No**

Gift Aid declaration

(HMRC reference XR32048)

I want Nottingham Astronomical Society to treat all subscriptions and donations that I make from the date of this declaration as Gift Aid donations, until I notify you otherwise.

I pay an amount of UK Income Tax and/or Capital Gains Tax at least equal to the tax that Nottingham Astronomical Society reclaims on my donations in the appropriate tax year.

Signature:

Date: