



STARDIS

The Newsletter of the Tiverton and Mid Devon Astronomy Society

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In this Issue :

Welcome 1

Editors
Comment 2

Chairwoman's
Column 3

Members
Section 4

Dates for your
Diary 11

Welcome to the May Newsletter. This is the start of the shorter nights, making those rare nights when it is clear even more precious to use every opportunity to observe.

In this months newsletter we have an article written by John Young where he tells us all about a recent Distance Learning Course he has been taking. I hope it inspires others to consider taking up some study to further their knowledge of this festinating hobby of ours. I hope you have your results and have passed John. We also have an interesting account of Jo Richardson's Space Detectives and her reasons for starting the endeavour and its aims. I'm sure we all wish you continued success.

NGC5907 in Draco
2015 Apr 12
LX200ACF - 305mm -
QSI683WSG Camera
Taken by: Pete Richardson



Editors Comment:

It has been great to receive a couple of interesting articles from other members. It makes my job a little easier and I'm sure makes the newsletter a bit more interesting for everyone else at the same time, so please keep it up, it's your Newsletter after all.

In the last meeting, the AGM was held and all of the present committee was happy to re-stand and was re-elected in due course. Afterwards we had two very interesting and informative talks by our members John Parrett and Pete Richardson on how they go about there Astrophotography. It was very interesting to see how they went about building up their respective Astrophotography kit . I was particularly interested in the way they had built their Observatories and would love to hear of other members trail and successes in building their Observatories and how they use them.

Enjoy the Summer break and the next Newsletter will be end of July



The Solar Eclipse 2015-03-20
Images by Keston Brill



Thoughts From The Chair

Hi Everyone

Here is my final note for our 2014/15 season. Yet again the year seems to have flown by as we fast approach our last meeting on 5th June 2015. I am very pleased and honoured to have been nominated as Chairwoman for a second year at our AGM in May and I am even more pleased that all the Committee Members were happy to stay in their posts too. "Teamwork makes the dream work!"

I feel it has been another very successful year for our Society and Astronomy. We have been blessed with some fantastic speakers who have enlightened us on many subjects. Standout for me was Steve Bennett's Starchaser talk when the Scouts visited and Paul Money who I thought was hilarious and a very lovely man. Most of all I love seeing and hearing you, the members, asking questions and broadening your knowledge. For me that makes all the hard work worthwhile. Over many years I have received lots of wonderful feedback from our speakers about how much they have enjoyed visiting TAMDAS and this is reflected by the fact that they are always happy to return.

This year the Society also purchased a telescope with a hydrogen-alpha eyepiece for solar viewing. I look forward to using this for many daytime events in the future. If you would like to borrow this or any of the Society's equipment please let one of the Committee know.

Astronomically, the event for me was the Rosetta Mission landing the Philae probe on a comet. I think it is such an amazing feat and achievement. I also "buzzed" for a week after our solar eclipse event which I enjoyed sharing with many TAMDAS members and 250 members of the public in Tiverton Market. The weather and viewing were just brilliant!

Our Facebook page is starting to prove invaluable as a form of communicating events and as a point of contact. If you haven't already seen it please do watch the video from the solar eclipse. Also feel free to put up a post to share any relevant astronomical events you may know about.

Finally, many thanks to you, the members, for your continued support of the Society which will be celebrating 30 years in 2016. I will unveil the 2015/16 programme at the June meeting and I look forward to seeing you there. Don't worry if you can't make it as I will send the programme out electronically as well.

Wishing you all clear skies.

Angela

Members Section:

The Night Sky For June/July

Moon phases:

Full Moon 2nd June, Last Quarter 9th June, New Moon 16th June, First Quarter 24th June

Full Moon 2nd & 31st July, Last Quarter 8th July, New Moon 16th July, First Quarter 24th July

The Sun:

The Summer Solstice occurs on 21st June at 17:30 BST. This is the official start of summer and marks the point when the Sun is at its most northerly point along the ecliptic.

The Planets :

Mercury remains close to the Sun in the Morning sky in June and Jul

Venus is visible in the western evening sky, as the sun sets and will be at its brightest for this apparition in early July.

Mars is in conjunction with the Sun in June and will this be un-observable.

Jupiter is in the evening sky throughout our period and has a particularly close conjunction with Venus on June 30, although it will be slowly getting closer leading up to this date.

Saturn is very low in the sky throughout this years apparition and the next few unfortunately. It was in opposition on May 30th Telescopically the rings are fully open now making up somewhat for the low altitude.

The summer constellations of Sagittarius, Scorpio and Ophiuchus are now due south with their abundance of nebula and clusters to look forwards to. The Summer Triangle should now be getting on full view also.

Object of the Moment - 'The Whirlpool Galaxy' M51

The Whirlpool Galaxy can be found in the Constellation Canes Venatici (RA 13h29m52.7s Dec +47° 11' 43"). It is an 8.1 magnitude interacting pair of galaxies that can be observed in binoculars, but to really start to see the spiral structure an 8" scope or larger is required. At this time of year it can be found almost at the Zenith.

It lies at a distance of 23 Million Light years and was the first Galaxy to have its spiral structure observed. This was found by the 3RD Earl of Rosse using the famous 72" Telescope at Birr Castle.



The Whirlpool Galaxy
2015 Apr 18,20,21 & 23
LX200ACF - 305mm -
QSI683WSG Camera
Taken by: Pete Richardson

My Course On Astronomy; John Young.

I have been interested in astronomy for around 60 years and last year wondered about improving my knowledge because so much has been discovered in the last few decades. *Astronomy Now* had an advert for online distance learning courses at the University of Central Lancashire (UCLAN). The university website <http://www.studyastronomy.com/> showed degree courses but also standalone certificates in astronomy. Introduction to Astronomy, a certificate/module at first year degree standard, seemed about right for me. Around 80 students were enrolled, most from the UK but a few from around Europe, North and South America, Africa and Asia. It involved about 200 hours of study though the assignments took me much longer than expected. The cost was £420 which I thought was do-able.

An online tutor facilitated the course and there were several downloadable resources. Chief among these was the set of course notes which summarised the subject concisely in 180 pages. There were 12 topics;

1. The Celestial Sphere
2. Stellar Magnitude Scale
3. Radiation from Stars
4. The Hertzsprung-Russell Diagram
5. Stellar Spectroscopy
6. Telescopes
7. Binary Star Orbits
8. Stellar Structure
9. Stellar Lifetimes and Energy Sources
10. Stellar Evolution
11. Galaxies and
12. Relativity and Cosmology.

I needed to brush up my maths and physics and useful appendices helped with these. The recommended textbook, *Universe* 10th edition (2014), has 800 pages, is up to date and beautifully presented but with typos and enough mathematical errors to unsettle novices. There were online classrooms with the tutor every few weeks and I found these helpful and absorbing and the hour or more passed all too quickly. A discussion board enabled students and tutor to interact and covered such matters as questions about the course, maths, sharing ideas and images etc. There were practical and theoretical self-test exercises throughout the course and every seven weeks or so I had to submit an assignment electronically for assessment.

Two of these were practical. One involved observing constellations, (I chose Cepheus), estimating magnitudes and constructing a Hertzsprung-Russell diagram from published observations of bright and near stars. The other was to work out the age and distance of the Crab Nebula using photographs taken over an interval of 27 years. The other two assignments were problem based and between them covered the course topics. From my point of view the course was very successful in giving an up to date overview of the subject. My previous knowledge was enhanced and I learnt a lot of new things and was impressed at how much can be done by relatively straight forward maths, such as estimating the mass of the Galaxy and the number of stars in it! At the end I found that there were more electronic library resources than I was aware of at the beginning, but what I did have was more than enough. I hope I have done enough to pass the course.

At the end of February there was an optional observatory weekend near Preston. I signed up for this (£270) and it was well worthwhile in spite of the weather. 20 students took part, one even came from Malta. The clouds prevented any observations but this was well compensated for by a full programme of workshops on such topics as quasar spectra, galaxy classification and planetarium software as well as lectures on stellar seismology and cosmology. We had a tour of the observatory facilities which will soon be enhanced by a new telescope. There were splendid meals at Alston Hall near the observatory and plenty of time for discussion with staff members and fellow students. It was very enjoyable as well as informative.

W. John Young
May 2015



The big one is the Wilfred Hall observatory but the 15 inch refractor there is now a museum piece.



Telescopes are fixed on the wedges for observations and the students are learning about them. The observatory in the background is being adapted to house a new telescope.

The classroom with a planetarium ceiling, laptops and quite a lot of other equipment.



Off to the classroom/lab.

A Day in The Life of Space Detectives

My name is Jo Richardson and I founded the business Space Detectives in September 2014.

The aim was to promote an understanding of Space and Astronomy to a wider audience, including schools, community groups and public events.

Having worked voluntarily within Space Public Outreach Education for many years at various events for organisations such as Exmoor National Park, The National Trust and BBC Stargazing Live, it became the natural progression (particularly when I lost hours in my main employment) to develop a business based on something that I thoroughly enjoyed doing and had a passion for.

Following many months of market research within schools and community groups, I designed my initial workshops, my rocket logo, my website and even had a uniform made! I had a steep learning curve in marketing and eventually my car was also emblazoned with advertising!

That was 9 months ago and to say that I am astounded with the success of Space Detectives in such a short period of time is an understatement. I have held workshops not only in numerous local schools but also as far afield as Surrey and Devon. Throughout February, March, April and May 2015 I have been fully booked and am receiving some fabulous reviews. I have managed to engage children as young as 3 right through to adults aged 70+ using a mixture of workshop activities, audience participation and presentation.

Each workshop can be adapted to the age group and prior knowledge of the audience and include titles such as:

“Intro To the Solar System - Our Place in Space!”

“Blast Off 1 - Pure Rocketry”

“Blast Off 2 - Rockets and Astronauts”

“Space Rocks

“Seeking out the Sun”

“Beyond our Place in Space”

“Planet Reporter”

My motto and belief each time I run a Space Detective Workshop is that “If I can inspire just one person to look up and see the wonders of what lies above us, then my work is wholly worthwhile.”

The subject of Space and Astronomy are fascinating topics and Space Detectives will continue to promote that any which way it can!!

If anyone is interested or knows of any schools/community groups that may be interested in having a Space Workshop, please feel free to contact Jo on 07859066400 or joannerichardson22@rocketmail.com

Space Detectives website can also be viewed at www.spacedetectives.com



Some Space Detectives
in Action



Monthly Meetings and Forthcoming Events:

- 5th June 2015
John Herschel - The Forgotten Man of Science - Andy Burns who is the former curator of the Herschel Museum and the world's leading expert on John and William Herschel
- 19th June 2015
Visit to the Met office in Exeter - Please Note: Pre-booking required and photo ID to be taken on the night

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Submissions for the next newsletter to be received by 30th June 2015 to either of the editors email address.

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