

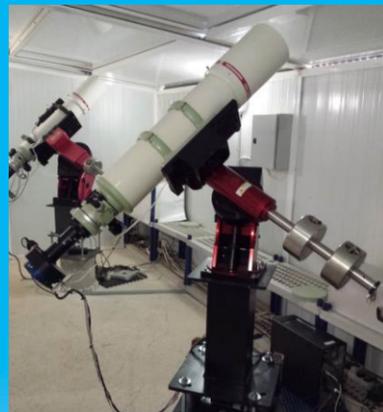
SPANISH NIGHTS

We have started our BSc Project which involves observing and studying a selection of variable stars in order to understand the processes which control them and the underlying Physics.

A variable star is a star with a brightness that changes over time. This can be anything from a few seconds to several years depending on the type of star and what causes the variation. The variation can be caused by something obstructing our view of the star, such as dust or even another star, or it can be caused by physical changes within the star itself such as it expanding and contracting or changes on the stars surface.

We will be observing three different types of variables: eclipsing binaries, Cepheids and RR Lyrae. An eclipsing binary system is, two stars, an Alpha and a Beta, which orbit each other, and the eclipsing causes the variation. Cepheid class variables pulsate- they periodically change in diameter, causing a change in brightness. RR Lyrae stars also pulsate, but are a different class of star.

The main goal of this project is to observe and measure these changes in brightness.



The robotic telescope can be controlled from anywhere in the world with an internet connection.

In order to observe these stars we have been donated time on a remote facility in Nerpio, Spain by Chris Baker. The telescope is a Takahashi TOA 150 6" Refractor with a Lodestar Guide camera and the imaging will be done using the attached Quantum Scientific 683wsg CCD cooled camera. The technical equipment is being used to produce stunning images of space and should be ideal for photometry, which is the process by which we measure the brightness of the stars captured. Our data will be compared with both professional and amateur results from several different databases.

**Daniel Law, Adam Shore,
Callum Wilkinson & Daniel Rogers**
Year 3 Students



The panoramic view from the observatory.

EVENTS

November	12	Astrocampus Opening
	15-21	University Science Week
	17	Café Astronomique
	25	Full Moon
	26	Astrocampus Opening
December	10	Astrocampus Opening
	11	New Moon
	15	Tim Peake Launch Date

For details on our open nights and to make a booking, please go to www.astrocampus.org.uk

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UNIVERSITY of York
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ASTRO NEWS



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GO FOR LAUNCH!

The seasonal cloudy autumn sky is on us once again, but we have had clear patches and some stunning clear nights. You may notice Jupiter in the south-east early morning skies if you rise early!

Our winter observing season is well underway. Public open evenings are fortnightly on Thursdays, with an earlier and later session to choose from. Reserve your place at www.astrocampus.org.

Student societies across campus are organising Science Week 2015 from 15-21 November. AstroSoc, the student astronomical society, is hosting a very special evening dedicated to the wonders of space! On Tuesday 17th November at the Courtyard bar, there will be three exciting talks interspersed with tons of interactive demonstrations from both students and staff

In the first of the thirty-minute talks, students will be taking a trip back in time for an illuminating look at the Space Race, then heading into the future, they'll look at the human race's plans for space exploration in the coming years. Are we ever going to get to Mars? Finally the Physics department's Dr Emily Brunsdon (me!) will

lead a voyage into the depths of space, looking for alien worlds around distant stars. Events kick off from 7.30pm.

On December 15 we expect British astronaut Tim Peake to launch to the International Space Station, and we are delighted to be involved with the National Science Learning Centre for a full day of events for schools.

That evening we are extending an open invitation to families to come and share in the joys of space. From 5.30pm we will show the live broadcast of Tim's press-conference. There will be lots of hands-on activities and talks including an ESA representative involved in the mission! Keep an eye on our website www.astrocampus.org.uk for full details and free tickets.

The launch is promising to be a very exciting event. Follow Tim's progress at blogs.esa.int/astronauts or on twitter @astro_timpeake



Best Wishes and Clear Skies!

Dr. Emily Brunsdon
Director of Astrocampus

UPDATE

The Astrocampus has been out on tour throughout the autumn. In September, YorNight saw lots of hands-on activities celebrating research as part of a mega event taking place simultaneously in 300 cities across Europe. A great video showing some of highlights is at <http://yornight.com/2015>

Then October saw a grand tour of North Yorkshire libraries: the Cosmodome wowed audiences in Starbeck and Harrogate; space-themed activities kept families entertained in Knaresborough and Ripon; and a range of light-themed talks and demonstrations celebrated International Year of Light and Illuminating York at York Explore.

Katherine Leech
Outreach Officer

