



Hey everyone! In this week's newsletter we have our upcoming events, space news and a few photos to share with you!

## Next Meeting

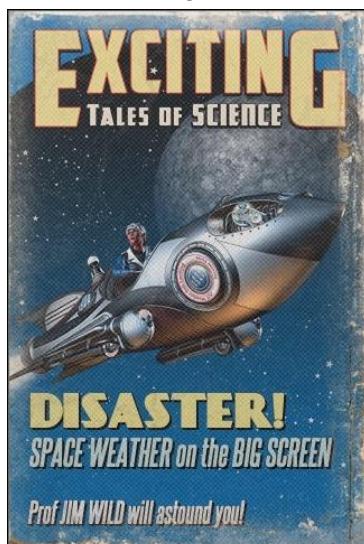
Our meeting this week is on **Wednesday 22nd February** and we will be having a cross over presentation with the Linguistics society about the history of the names of solar system objects. We will be meeting in **Furness LT2 at 8pm**. Hope to see you there!

Afterwards we will be having an informal meeting regarding Lyman, choosing targets to photograph, and seeing who is interested in taking part. The weather is also looking really clear on Wednesday, so it's a great chance to photograph our first target.

## Upcoming events

As we are halfway through the term we would like to remind you of our upcoming events for the following weeks!

- ★ For next week (week 17) we were planning a Space Q&A for Wednesday 1st March! If there is anything about space you would like to ask, fill out this [form](#) and we will try our best to answer it!
- ★ For week 18 we will be watching a talk from Jim Wild on Thursday 9th March on exciting tales of science!



- ★ Week 19 is the Lyman submission deadline and the voting for the winning society starts! For our meeting on Wednesday 15th March we will be attending a talk by Emma Bunce (President of the Royal Astronomical Society 2020/2022) on the

predicted oceans underneath Jupiter's moons, and a pair of missions to discover more about them.



**Exploring Ocean Worlds**  
Prof Emma Bunce (University of Leicester)

**Physics Department Colloquium**  
2pm, Wed 15<sup>th</sup> March, Faraday Lecture Theatre  
Talk followed by refreshments | All staff and students welcome

"After just a few decades of space exploration with robotic spacecraft, we now have tantalising evidence that deep oceans of liquid water exist beneath the icy crusts of moons and dwarf planets in our solar system. This raises the question of the potential habitability of these extra-terrestrial environments, as life as we know it depends on the presence of liquid water. Two of the Galilean moons in the Jupiter system, Europa and Ganymede, are thought to harbour such underground oceans, based largely on observations from the NASA Galileo mission in the late 1990s. In order to take the next step in our exploration of the properties of these oceans, however, we require dedicated spacecraft to make a variety of precise measurements. We are now poised to do this. The first is the European Space Agency's JUICE mission, which will focus on Ganymede, is planned to launch in 2023, and the NASA Europa Clipper mission is planned for lift-off the following year. In this talk I will explore the methods for detecting the oceans using these space missions. I will focus on how the electromagnetic interaction between the moons and Jupiter's rotating magnetosphere can help to reveal the watery secrets that lie beneath their surfaces."

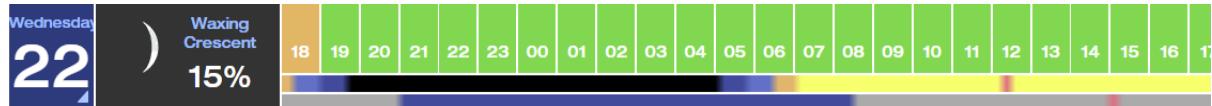
Please register at <https://lancaster-uk.libcal.com/calendar/physics/exploringoceanworlds>

 Physics | Lancaster University 

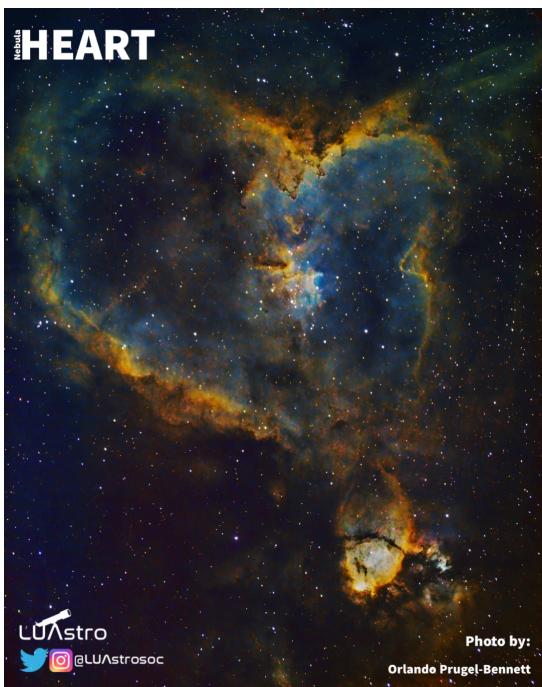
★ Finally for week 20 we will be having a end of term quiz on Wednesday 22nd March!

## Observing sessions

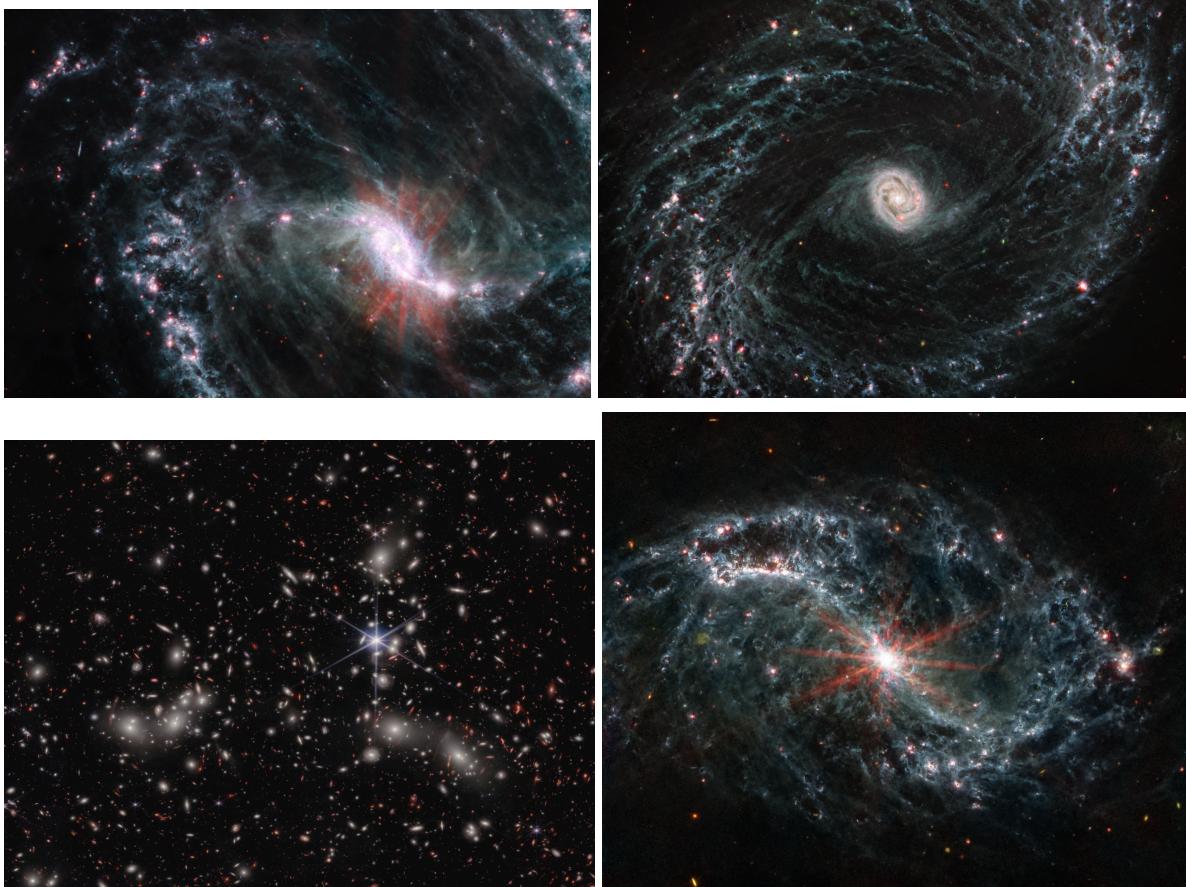
The sky should be clear right after our Wednesday meeting this week, so we will plan an observing session for then, focusing on photographing our first target for Lyman! Orlando and Jacob will be focused on astrophotography, setting up a refractor for imaging, and then driving off to [Caton Moor Windfarm](#) to set up some DSLRs to image in very dark skies. The car fits 5, so if you would like to come too, send Orlando a message ([prugelbe@lancaster.ac.uk](mailto:prugelbe@lancaster.ac.uk)).



## Photo gallery



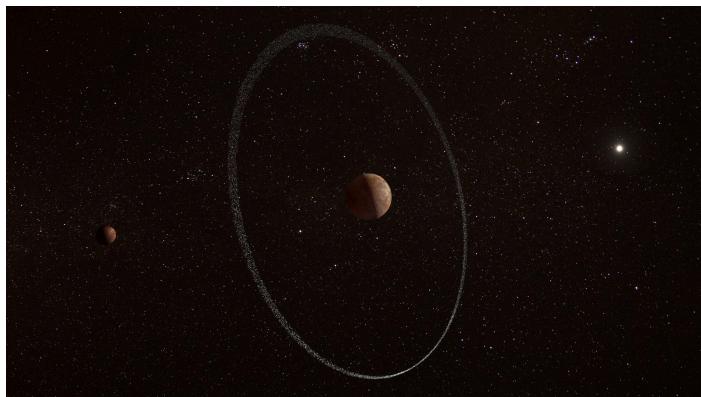
This photo was taken by our president Orlando this week using the small refractor and Az-Eq6 Pro mount. This photo uses the monochromatic camera and filters to capture different colours of light which are then later combined into a full colour image. In this case, the filters used were H alpha, Oxygen III and Sulfur II. These are narrowband filters which look at specific emissions given out by those elements. Colours are assigned based on the standard “Hubble palette”, which gives us the colours in the final image!



This week we got a new collection of photos from JWST! Top and bottom right are a series of barred galaxies in the NGC catalogue. Bottom left is Pandora's cluster, a tightly packed cluster of galaxies that is the result of a merger between 4 different smaller clusters. The majority of the mass in this cluster is made up of dark matter, at around 75%!

## Space News

A ring was discovered around the dwarf planet Quaoar, by a process called occultation. When it happened to move in front of stars, the way the light was blocked let astronomers determine its shape, size and other factors. As the occultation took place, the light from the star decreased a little before and after Quaoar passed, which suggested a ring surrounding it. Scientists are confused as to why the ring hasn't turned into a moon yet, click this [link](#) to read more!



## Contacts

If you wanna reach out, just message LUAstro on instagram or any of the exec on discord and don't forget to follow us on our socials and discord [here](#)! Clear skies everyone!

Best wishes,

LUAstro exec