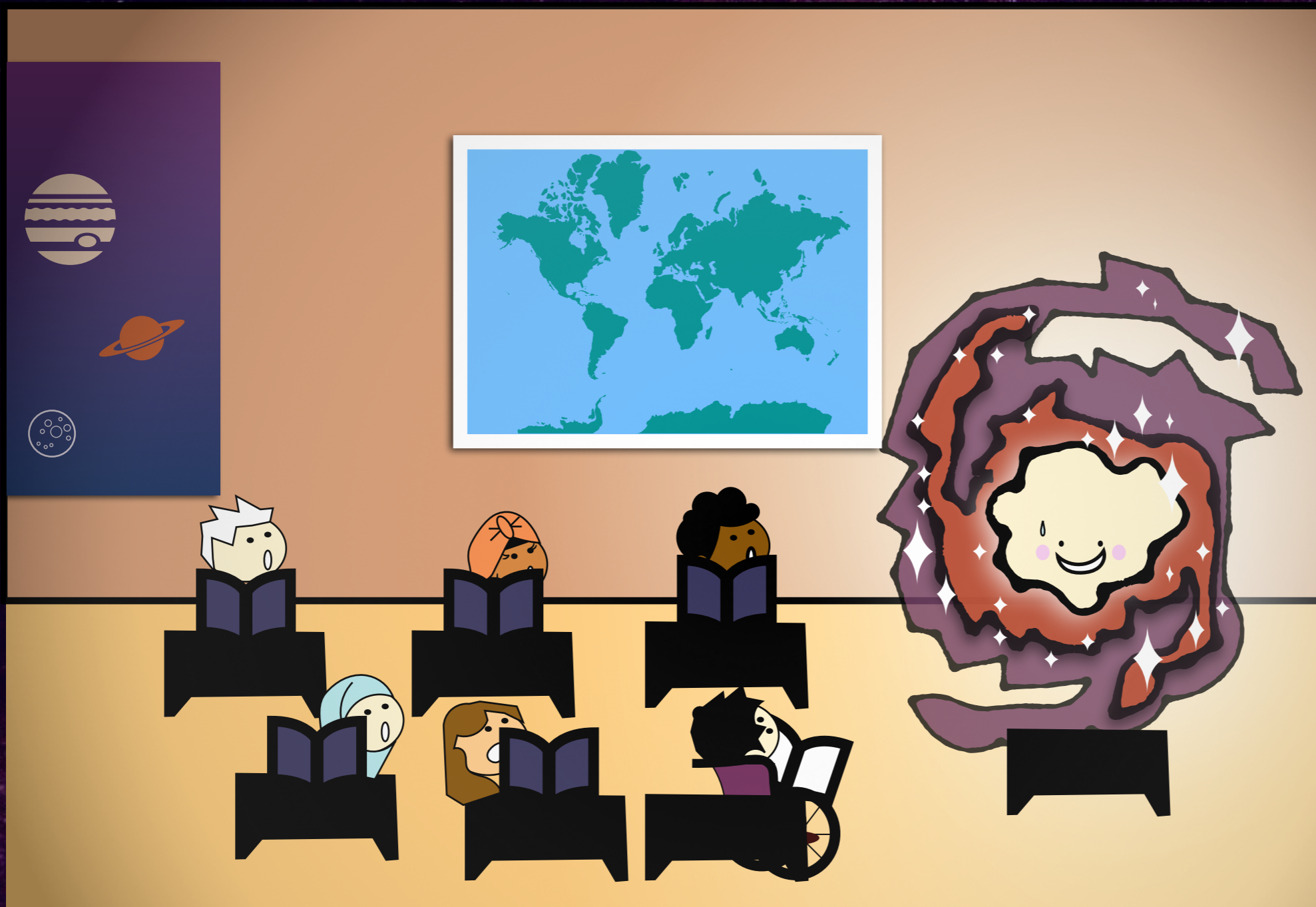


Bringing the Universe to the Class Room

An initiative by Chalmers



CHALMERS
UNIVERSITY OF TECHNOLOGY

Our Team



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Our Vision



CHALMERS
UNIVERSITY OF TECHNOLOGY

WE ARE a group of enthusiastic astronomers and space lovers.

WE WANT to bring our personal experience as people and as professionals to classrooms to prove that *****Astronomy is for ALL*****

WE PROPOSE a series of interactive activities, connected to the school curriculum, where the students will get hands-on astronomy experience

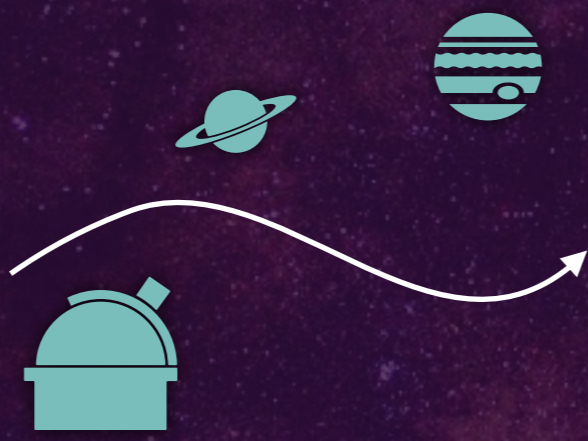
Some Examples



Curriculum Item (grades 7-9)

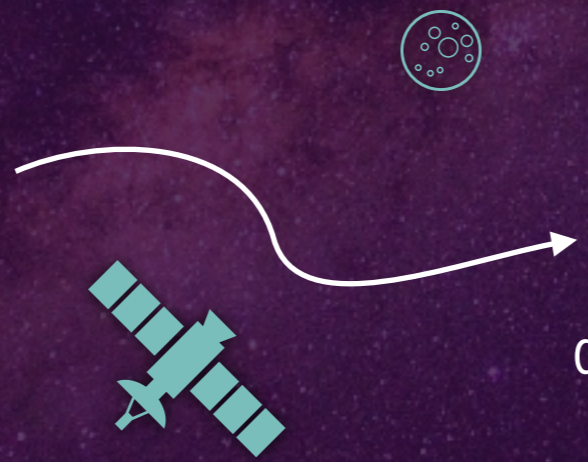
Interactive Activity And Additional Knowledge

The spread, reflection and refraction of light in everyday context. Explanatory models for how the eye perceives colours.



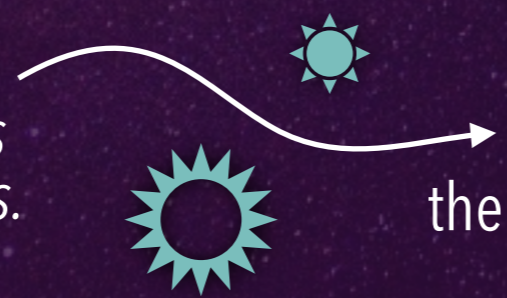
We discuss the electromagnetic spectrum and how we observe the light at different frequencies. The classroom will write proposals for observations to be carried by them with the Faulkes Telescope.

Scientific theories about the origin of the universe in comparison with other descriptions.



We discuss how and what we know about the history of the Universe. The students will identify from different epochs by using Hubble Space Telescope data and the standard software to produce astronomical images.

The evolution of the universe and the origin of atomic species through the evolution of the stars.



We discuss how heavy elements are produced through supernovae and the properties of stars change over cosmic time.

Activity Structure



1
We present ourselves as people with a background and we tell the personal story of how we became astronomers

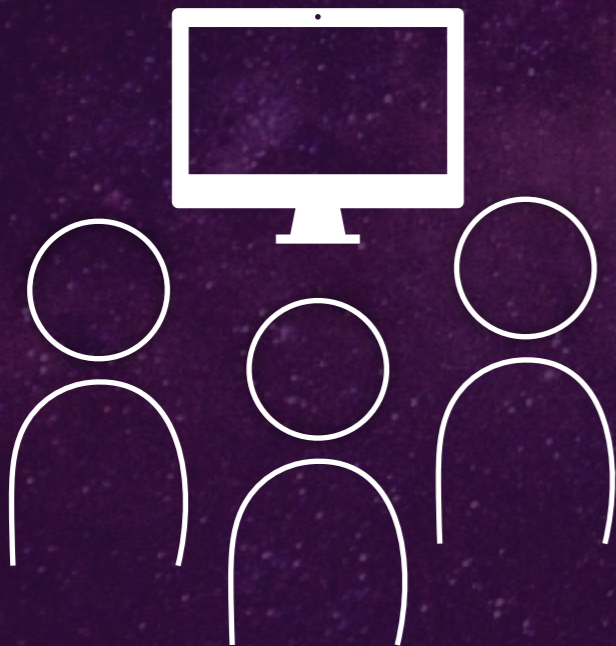
2

We present the concepts we will use in the interactive part of the lecture, e.g. the history of the universe and redshift



3

We engage the students in a hands-on experience, which will be devised based on the available resources



Interactivity Example



Depending on the number of students involved and number of computers available, we have 3 tiers of involving the students:



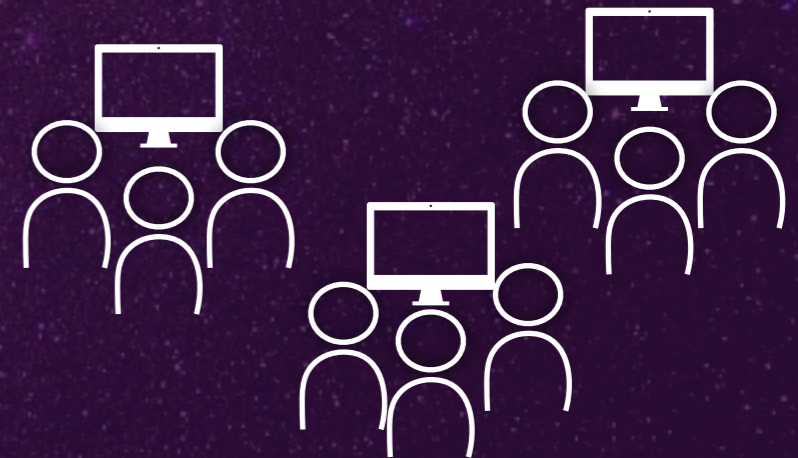
Tier 1: *One computer per class room*

The interactive activity takes place with the class as a whole. Either 'quick quiz' questions where students can vote by standing in a specific location or where the whole class has to work together to come up with an answer (~15-45 mins)

Tier 2: *One computer per 3-5 students*

The interactive activity takes place with small groups of students. Each group is provided with a task such as

- Schedule and observe with the Faulkes telescope (~45 mins)
- Determine the redshift of galaxies (~15-30 mins)
- Rank the redshifts of galaxies and compare and contrast their environments (~30-45 mins)



Tier 3: *One computer per student*



The interactive activity takes place where each student has their own personal computer and requires them to download specific astronomy related software (DS9). They are then given a task such as:

- Download images of galaxies and create colour composite images (~1 hour)
- Download images and locations to search within those images for galaxies at different redshifts (~1 hour)

Contact Us



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