

What is a robotic telescope?

Summary

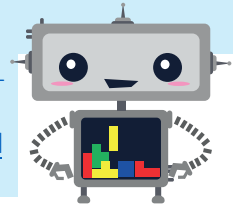
In this activity students will learn what a robotic telescope is and specifically how observations are made on the Las Cumbres Observatory telescope network.

Age: 8 – 12 years

Materials:

Whiteboard or flipchart, pens, [SEROL presentation part 3](#), [3D printable Serol model](#) or [DIY paper Serol model](#) (optional).

Duration: 15 minutes

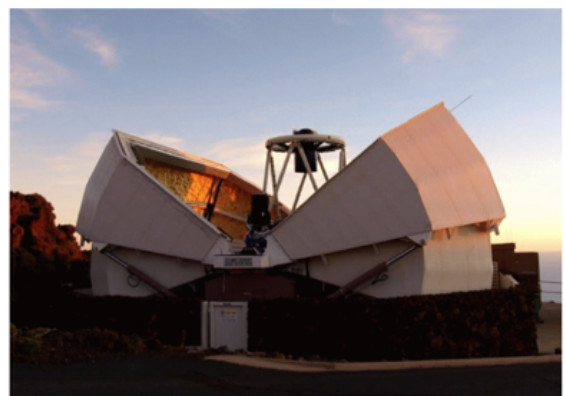
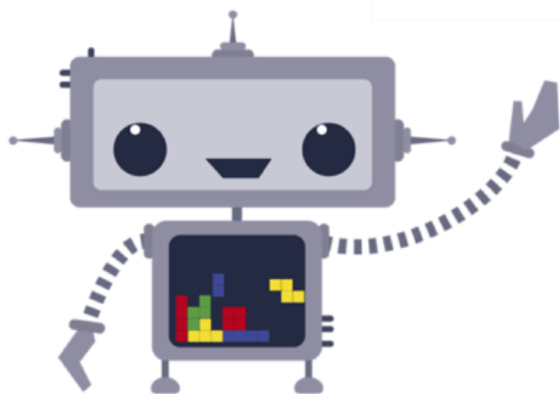


1. Ask the children what they think a robot looks like, maybe ask them to draw one.

2. Show Slide 2 of the SEROL presentation. This is one of the large 2-metre LCO telescopes. It is also a robot.

Tip: Before starting this activity we strongly recommend you complete the following activities: “The Search for Dark Skies” and “Why do telescopes come in different sizes?”

ROBOT



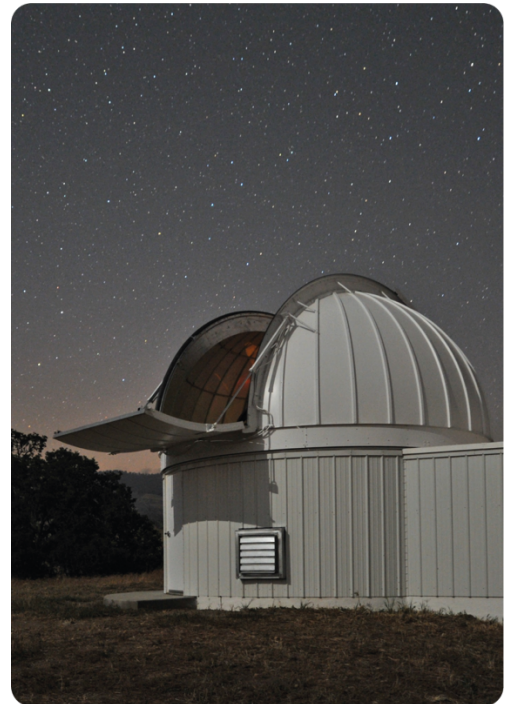
3. Explain that the telescopes which make up the LCO network are robotic -- this means that in some ways they work automatically. For example, instead of someone having to cover up the telescopes when the Sun rises, the telescope domes automatically close. (Refer to Slide 3 and play the short video ~15s. Telescope dome can be seen at the top left of video.)

4. When you ask the LCO telescopes for pictures of the night sky, they are also able to automatically decide which is the best telescope to capture your image and when.

5. We call the robot that does this SEROL. Show Slide 4.

6. If you haven't already shown the children the video "[SEROLs' Cosmic Adventures: The Hunt for Dark Skies](#)", play that now to explain the concept of the SEROL to the children. This will also reiterate all the information covered in the workshop so far.

7. To demonstrate the role of SEROL the robot, play a game of "SEROL says" (a variation of Simon Says). The rules can be seen below.



SEROL says

- Split the class into three groups. Assign each group a different size telescope (2m, 1m, 40cm)
- On a board visible to the entire group draw the table shown on the right.
- Begin playing a version of Simon Says, but substituting the name "Simon" for "SEROL". Give the students directions, such as spin around, jump up and down or wave your arms.
- If the direction is prefaced with the phrase "SEROL says", the children should complete the action. If the direction is not prefaced with "SEROL says", they should stay still.
- Once the students understand the game, choose a volunteer (if possible, ask a class assistant rather than a child). The volunteer will mark a telescope size at a time as "in daytime" by putting a cross in the Daytime column on the table.
- When a telescope is marked as in daytime it can no longer observe, therefore children in this group will stop what they are doing and stand still. Any students that continue to do the actions as instructed by SEROL, sit down.

Telescope Size	Daytime
2m	
1m	
40 cm	