

# HELIO-lab - From Backyard Observations to Heliospheric Science

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## Starting from Personal Experiences to Spark Interest in Science

HELIO-lab bundles a series of EPO modules about the Sun and the heliosphere. All modules start from direct observations as a source of personal experiences sparking interest in heliospheric science. Background information is not a prerequisite. However, it is provided when questions come up.

### The HELIO-weblab

- A webpage with an unusual format and a playful approach
- Instructions for building a simple observatory at home
- Access to near real-time solar images
- Information about research in heliophysics

### The HELIO-schoolab

- Observation instruments and activities for elementary schools
- Support for scientists working with young students
- Encouragement for elementary school teachers without a background in science to teach science subjects
- An opportunity for K-6 students to get to know a scientist as an active partner in a school project over an extended period of time

### The HELIO-expolab

- A collection of educational material for public events combining direct observation of the Sun with near real-time data
- Information in plain words on research related to the heliosphere
- Support for scientists to make use of existing EPO events without having to spend much time for preparations

## The Weblab - a Webpage with an Unusual Format

Knowing that people browse through websites quickly, choose things that appeal to them spontaneously and read relatively few texts, we attempted to create an interface that fosters explorative behavior. Browsing the site should feel a bit like walking through an exhibition.

The webpage is more than 40 000 pixels wide. Once users find out how to navigate, they scroll through the entire page to see what comes next. They discover that the Sun is the object of many research projects and that sophisticated telescopes both on Earth and in space deliver a variety of stunning pictures. Navigating through the page is an experience a bit like travelling through the Solar System.

Users should be able to see at a glance how they can observe the Sun. We decided to use drawings rather than photos or movies to be able to focus on the most important aspects. They gave the website the narrative touch of a picture book (current version on [www.fingertip.ch/helio\\_lab](http://www.fingertip.ch/helio_lab)).

## Developing EPO in Europe

European countries have a potential for further developing EPO programs and infrastructure. HELIO-lab is an attempt to introduce a bottom-up concept of EPO by concrete examples to convince an increasing number of stakeholders and future actors of the benefit of such programs.

Opportunities to establish a collection of EPO modules arise with EU research projects because they explicitly contain EPO work packages. The modules should work in a variety of contexts and match the different educational cultures in Europe. In the case of HELIO-lab, several projects each generate one or two modules to be used in combination. This allows including projects with small EPO budgets.

Currently, the following EU FP7 projects contribute to HELIO-lab

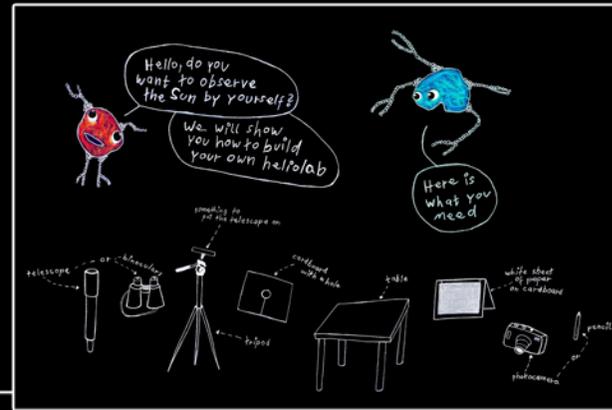
- HELIO (Heliophysical Integrated Observatory)
- CASSIS (Coordination Action for the Integration of Solar System Infrastructures and Science)
- HESPE (High Energy Solar Physics Data in Europe)

### Acknowledgments

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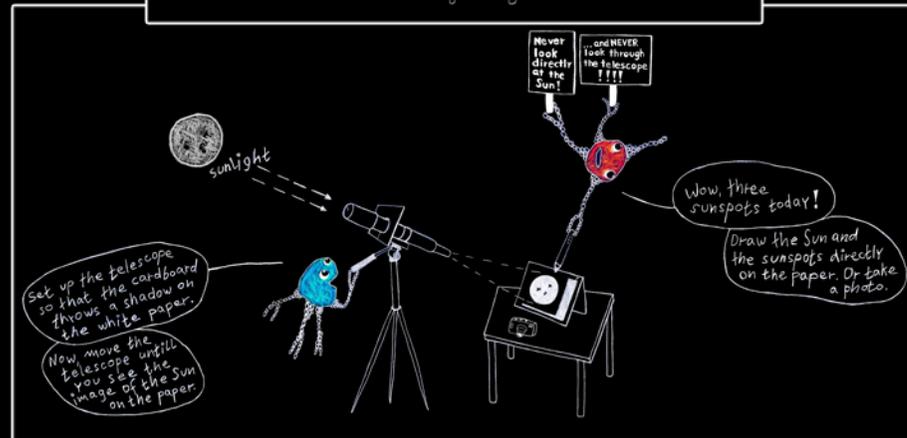
Contact: [hanna.sathiapal@fingertip.ch](mailto:hanna.sathiapal@fingertip.ch)



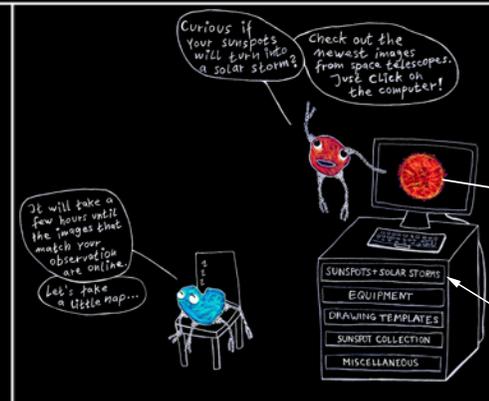
← **Instructions for setting up a HELIO-lab at home**  
 Excerpt from the weblab, current version on [www.fingertip.ch/helio\\_lab](http://www.fingertip.ch/helio_lab)  
 Comments in italics are from persons testing the page

*Is this for children or for adults?  
 For both, I guess.*

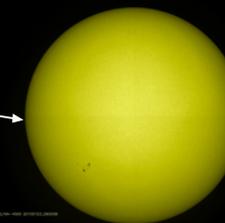
*Actually, I have most of  
 what I need at home.*



*Even if I don't make observations now,  
 I know how I could do it.*

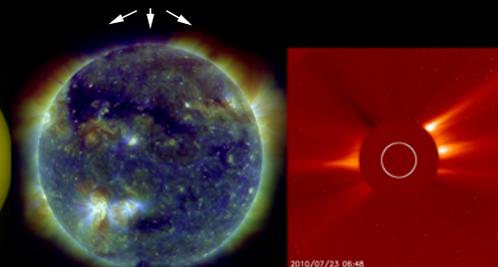


*Are these images real?  
 Who made them?  
 What about the colors?*



*So what are these sunspots, after all?  
 Can I find out here?*

Near real-time images from SDO and SOHO



The weblab webpage en miniature

*What comes next  
 if I go on scrolling?*

