Herschel and the invisible end of the rainbow

Magdalena Brunner & Franz Kerschbaum

Department of Astrophysics, University of Vienna

The discovery of infrared radiation: A science-communication project

In 1800, William Herschel accidentally discovered infrared radiation by measuring temperatures in different colors of the solar spectrum. The highest temperature was detected in a seemingly dark region of the spectrum, beyond the red end of the rainbow.

This indicated that there must be a kind of "invisible" radiation, transporting solar energy.



William Herschel during his experiment The chance discovery of infrared radiation by William Herschel will be explored in this project by:

• The reenactment of the experiment • A short play for 2-3 people

• A corresponding audio play

• Public workshops and lectures

We will organise **public performances** and subsequently make the material available to the public.

Communicate the historical discovery of infrared radiation



In the course of this project we will produce:

- experiment boxes for the distribution to pupils
- a podcast with scientists for a broad audience
- the script for the play and audio-play

teacher lecture notes and guides

All project materials for public use will be made accessible at: HTTPS://SPACE.UNIVIE.AC.AT/EN/PROJECTS/RAINBOW/



Provide material for public and school education





Measuring the temperature of spectral regions with an infrared camera

Highlight topics like scientific curiosity and gender equality

Convey examples of day-to-day application and scientific importance of infrared radiation



William Herschel was closely working together with his sister Caroline Herschel, who was one of the first women to be verifieably active in astronomical research and has been acknowledged by the Royal Astronomical Society.

The Herschels also had a very different background as musical composers and musicians. They started their astronomical carreer solely because of their scientific



William and his sister Caroline Herschel

during the discovery of Uranus

curiosity.

These two topics will be **central** themes to communicate to the younger audience to encourage their curiosity and aim to close the gender gap in the future.

magdalena.brunner@univie.ac.at







Der Wissenschaftsfonds.

Project in collaboration with:



Adrian Artacho, Cyril Dworsky, Matthias Heger, Karoline Iber, Daniel Meßner, Tobias Reckling et al.

Contact me!

I am happy to talk to you about this project in more detail and answer your questions.

