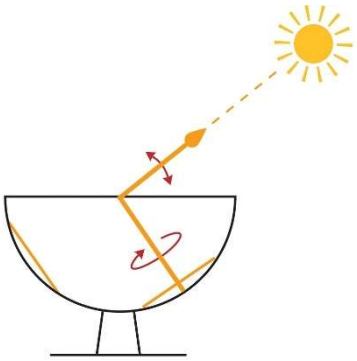
Art Workshop

SunPathClock



Imagine, lifting your arm and pointing with your finger directly to the sun in the sky. That's easy, isn't it? But now, it becomes more difficult to move your arm forward in a way that it shows, how the sun will continue to move in the sky towards sunset, which path it will take beneath the horizon, in what direction it will rise and how it will move higher into the sky again. It is exactly this, what the sun pointer of the **sunpathclock** can do. And it can do it for each day of the year and each place on the earth. A specially designed clockwork that is driven by a motor moves the sun pointer and allows him to do this job.



Thus, the sunPathClock can illustrate and help us to understand all the facts related to the movement of the sun in the sky, for example:

- How does the length of the day change during the year?
- How moves the point of sunset along the horizon during the year?
- The cycle of the seasons.



- Time zones, summer and winter time.
- When and where can you see the midnight sun and the polar night?
- Why is dawn so short in southern countries?
- The changes of the seasons from the equator to the North and South Pol.
- Does the sun move in the sky along a linear line or along an arch?

The sunpathclock can help us to understand how environment, nature and mankind work together. It can give us a feeling of our own place on the earth ball and how it interrelates with the whole cosmos.



The sunpathclock was invented in 1993 by Dr. Martin Zarth and he holds a patent on it. Since 2001, he is leading a group of volunteers. They are developing a **park sized sunpathclock** supposed to be installed and operated permanently in the City Park of Hamburg. The group calls itself "Art Workshop SunPathClock" (Kunstwerkstatt Sonnengang-Uhr) and it is part of the City Park Association Hamburg (Stadtpark Verein Hamburg e.V.).

The working group started to develop several non-permanent demonstration models out of wood and presented them to the public in the City Park. The enormous response of the visitors encouraged us to build and present a 10 x 5 x 4 metre large **footbridge model** five weeks long in 2007. It is situated on a slope next to the city park lake. On a footbridge, you can walk around the sunpathclock. At the bottom, a water cascade with a well in the centre is integrated. Since 2011, we

present the central part of this model that includes all astronomical functions to the public on several single days per year.

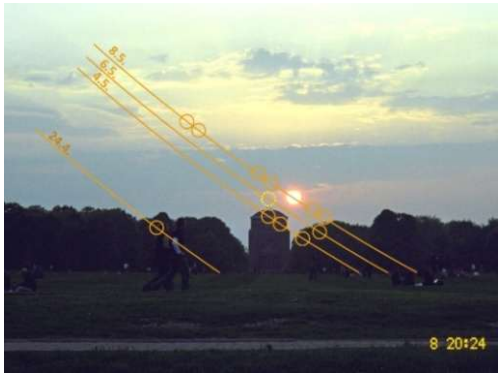
When you observe the sun through a window and mark the position of the sun on the window glass from time to time, then you get an interesting line. When you do this on different days of the year, you receive different lines, some curved upwards, others downwards and some even linear. In order to illustrate these curves, the working group developed a **sunroom**. It overarches the sunpathclock about 16 meter high. It is a minimalistly designed cuboid construction that shows the lines of the sun path for summer and winter solstice as well as for equinox.



In 2009, we built a 1:20 scaled model of the sunroom. By assembling different photographs, 4 pictures from a 1:1 scaled sunroom were produced in 2010. A university study proved in 2011 that the construction would be statistically stable. In 2012/13 two 1:80 scaled models were built. They help you to understand the quite complicated sun curves at a first glance.

The sunpathclock as well as the sunroom received very positive **response** from the visitors. Most of them were happy about the combination of both of them and how they correspond with the opposite planetarium. The first impression often was: “Looks like a sundial or like an astronomical device”. Some said, they like the combination of art work and astronomical device. Almost all visitors wished a **permanent installation** as soon as possible.

In 2023, the working group was totally surprised to hear from Hansjoerg Schuler that he has built not only a wonderful room sized sunpathclock but, in addition, he has invented and built in the same manner a **clock for the moon path** as well. Astonishingly, the moon path clockwork is not that much more complicated. On the spot, we were caught by the question, if we have to supplement our sun installation in the city park by such a moonpathclock. Meanwhile, we invented a park sized moon path clockwork and we enlarged the 1:20 model from 2003 by the moonpathclock. So far, not a single reason showed up that would stop this new development.



In 2003, fort the first time we succeeded to take photos from the descending sun just at that moment, when the sun disk positions for a second time exactly above the dome of the **planetarium**. Standing at the position of the sunpathclock, you can see the planetarium along the main axis of the city park about one kilometre apart. This scenario happens each year on May 6 and August 7 at about 8:30 pm. These two days are geometricly located exactly in the middle of spring and summer and they correspond with the celtic annual festivals Beltane and Lughnasadh.

The **final goal** of the „Art Workshop SunPathClock“ is to develop matured demonstration models. From the very beginning, we involved the park visitors intensively, because we want to end up with a work of art that will be really loved from as much visitors as possible. When we will be finished with our voluntary work, experts will have to take over. We hope that they will be able to realize a permanent installation with the help of donators and sponsors.

You can find **more pictures and informations** in the internet (sgu.stadtparkverein.de). The working group is happy to receive all kinds of feedback as well as donations. New volunteers are always welcome to support all our different jobs. special skills are not necessary.
Please contact: **Dr. Martin Zarth: Tel. 040 / 604 55 34,** E-Mail: Martin.Zarth@stadtparkverein.de

[PRINTING DATE 24.5.2025]