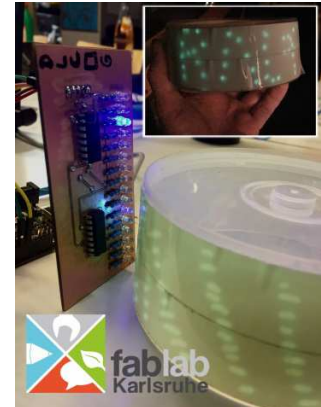


# Photonics workshop Phosphorescent Persistence of Vision (for instructors)

**Title of the workshop:** Phosphorescent Persistence of Vision

**Target audience:** 18+

**Summary:** In this workshop we'll use UV LEDs to write a text or images on a phosphorescent surface. The photonics principles used are light absorption and light emission. The different wavelengths of light (visible and non-visible ones) are also introduced.



## Time planning:

Timing In minutes	Activity
0-15	Welcome group: Give a short introduction of the topic of the workshop and about solar energy
15-160	Construction of the Heliostat
160-180	Closing summary and feedback

## Step 1: Part list

### Photonics parts:

part	quantity
UV LED 5mm 3.1V	50
LED Stripe	10x100cm

### Electronic parts:

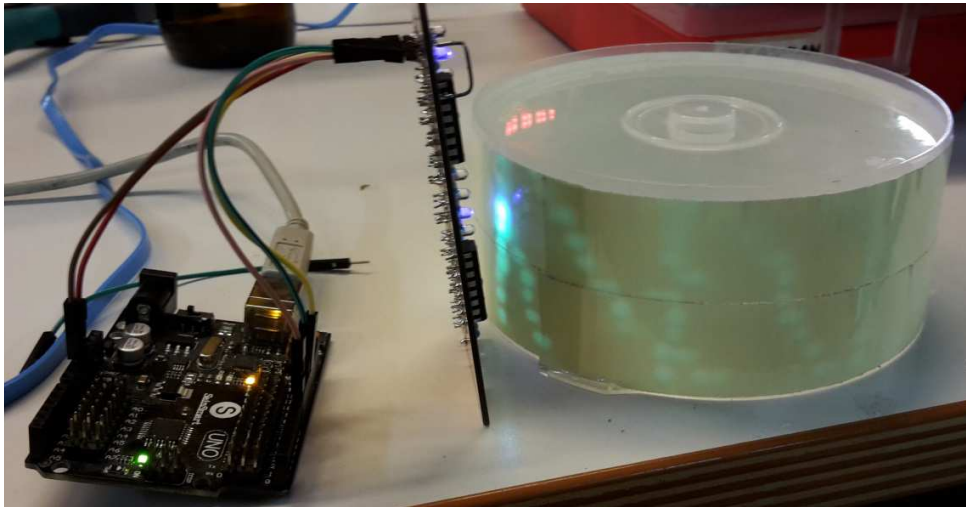
part	quantity
Stripboard	1
RaspberryPi 3	1
SD card with Noobs	1
connection cable Raspberry Pi	1
DC motor	1

### Other parts:

part	quantity
cylinder	

## Step 2: Principle of the Phosphorescent Persistence of Vision

In the picture below you can see the first prototype of the workshop 'Phosphorescent Persistence of Vision'. What we need to make a text we are writing with UV LEDs visible is a rotating drum, coated with a phosphorescent film and illuminated from the inside with light. The rotational speed of the drum corresponds approximately to the re-emission time of the phosphorescent film and thus a new text or image can be displayed for each new rotation of the drum. The construction of the prototype shall be used as a model and inspiration for developing further displays and forms to write with UV LED



First prototype

**PHABLABS 4.0** is a European project where **two major trends** are combined into one powerful and ambitious innovation pathway for digitization of European industry:

On the one hand the growing awareness of **photonics** as an important innovation driver and a **key enabling technology towards a better society**, and on the other hand the **exploding**



**network of vibrant Fab Labs** where next-generation **practical skills-based learning** using KETs is core but where photonics is currently lacking.

[www.PHABLABS.eu](http://www.PHABLABS.eu)

This workshop was set up by the Fablab Karlsruhe in close collaboration with Steinbeis-Europa-Zentrum.



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