

# Flypi - An open source, modular, affordable tool for imaging experiments.

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Initially developed by [Trend in Africa](#) and published in [Plos Biology](#).

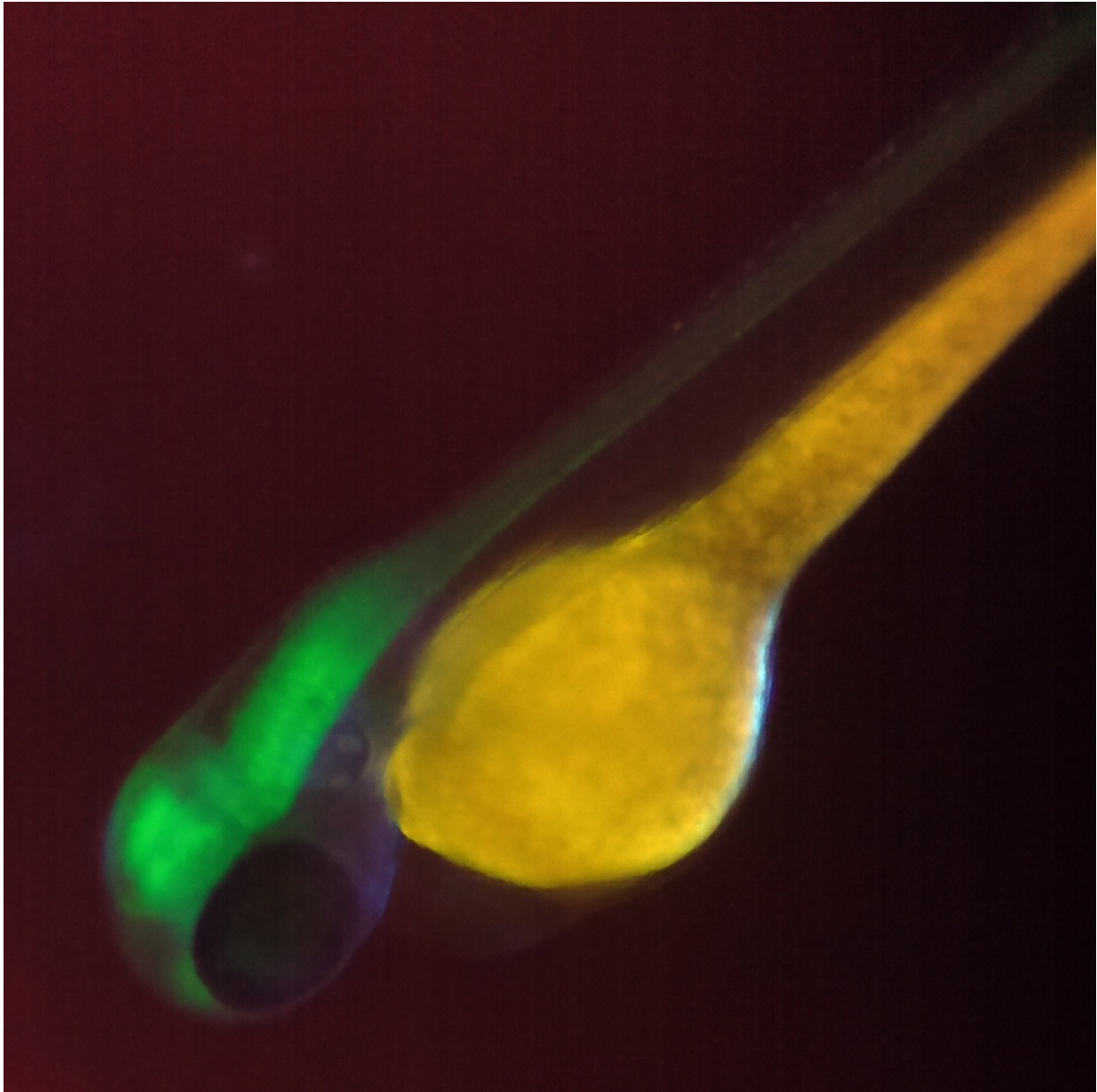
Version 1.0 was released with the paper and can be found [here](#).

The system can be used for optical microscopy, fluorescence, behavioural tracking, optogenetics, calcium imaging and thermogenetics.

Further development is being done by [Prometheus Science](#)

Some samples imaged with the device:

![[Fluorescence ZebraFish GFP expressed in heart tissue]  
(example\_samples/PLOS\_Paper/Zebrafish heartbeat GFP.gif) |



| test2

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4 | 5 | 6

10 | 11 | 12

**We've created a Forum for users to posts questions and suggestions too! Please take a look [here](#)**

## **Custom PCB**

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You can order the PCBs and buy the parts to assemble them through the [Kitspace page](#).

## **Necessary Libraries:**

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LED Ring from Adafruit:

[https://github.com/adafruit/Adafruit\\_NeoPixel](https://github.com/adafruit/Adafruit_NeoPixel)

LED Matrix from Adafruit:

<https://github.com/adafruit/Adafruit-LED-Backpack-Library>

gpac library:

`sudo apt-get update`

`sudo apt-get install gpac`

libav library:

`sudo apt-get update`

`sudo apt-get install libav-tools`

update pyserial library:

`sudo pip3 install --upgrade serial`

## **\*.h264 conversion to \*.avi:**

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is done via avconv (which is installed with libav-tools).

## **SD Card image containing Raspian image with all things installed:**

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<https://www.dropbox.com/sh/bibhy2sgadq30dm/AACD2Rdhmad2QdBi9q-pQfd6a?dl=0>