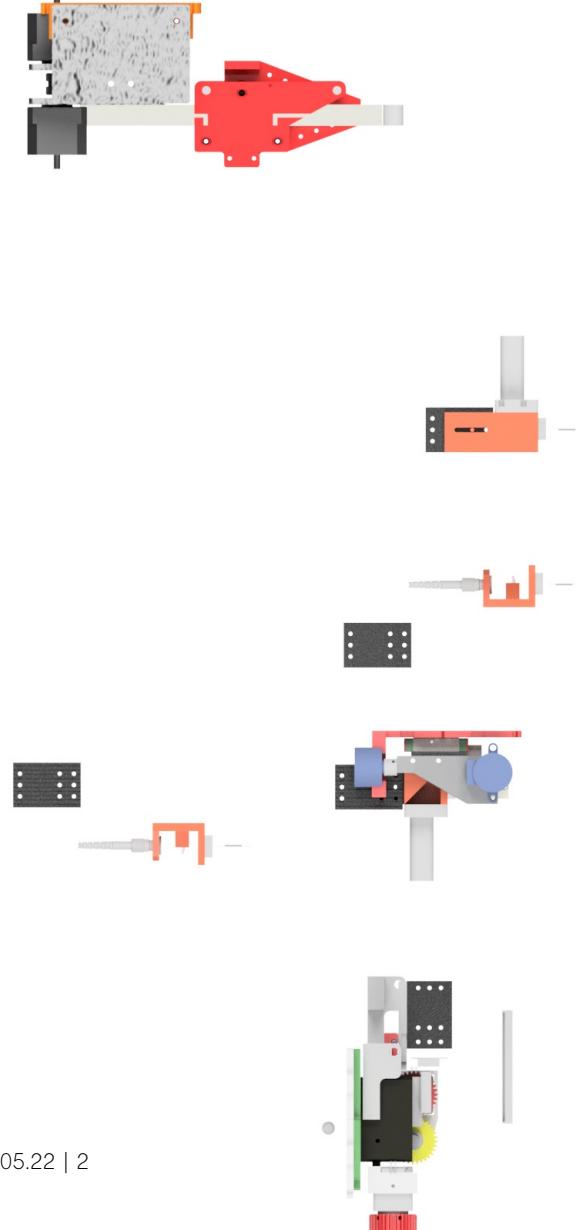




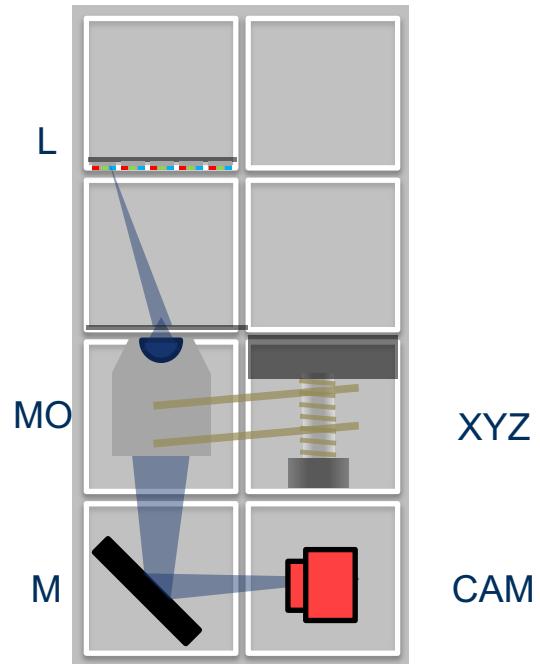
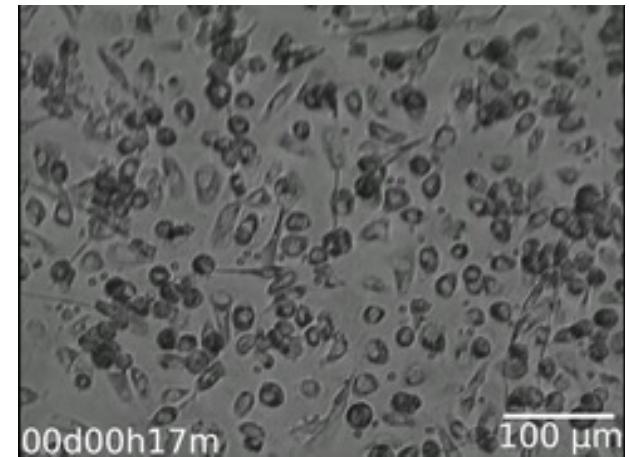
YOU. SEE. TOO.

```
import uc2.modules
```

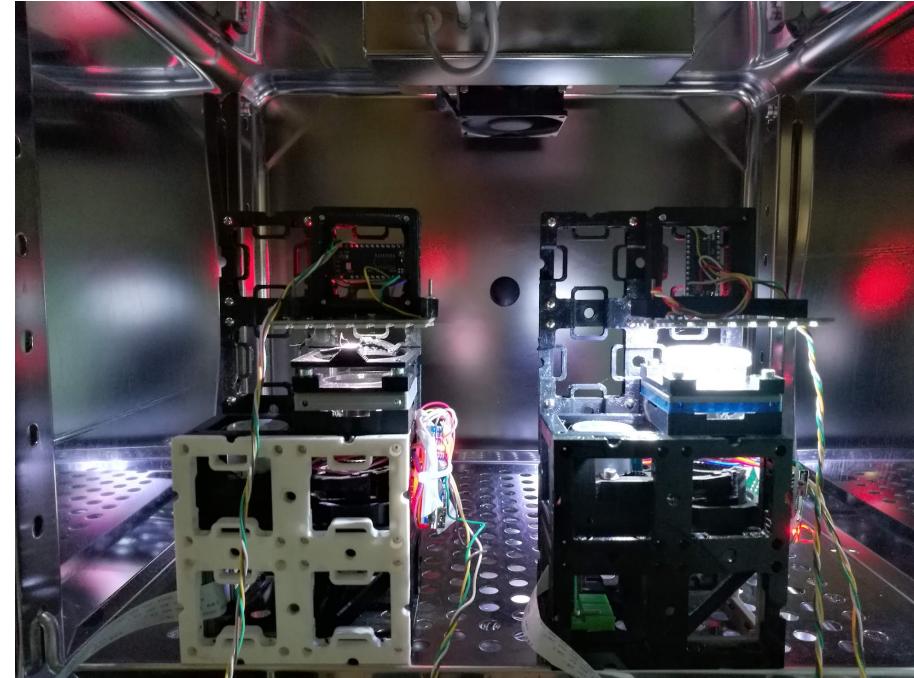


```
from uc2.modules import incubator_microscope
```

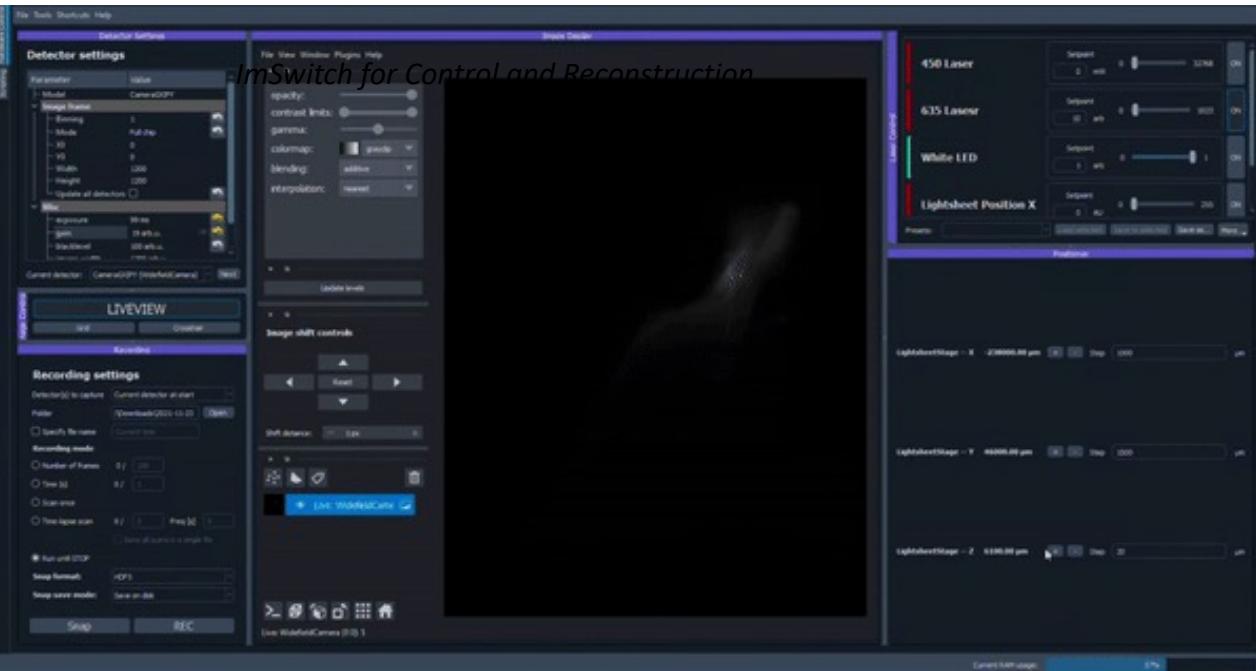
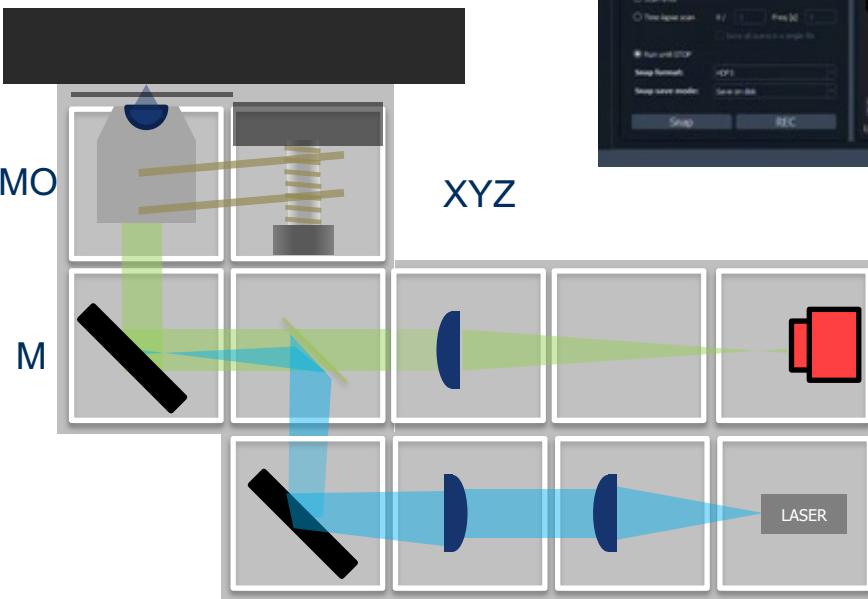
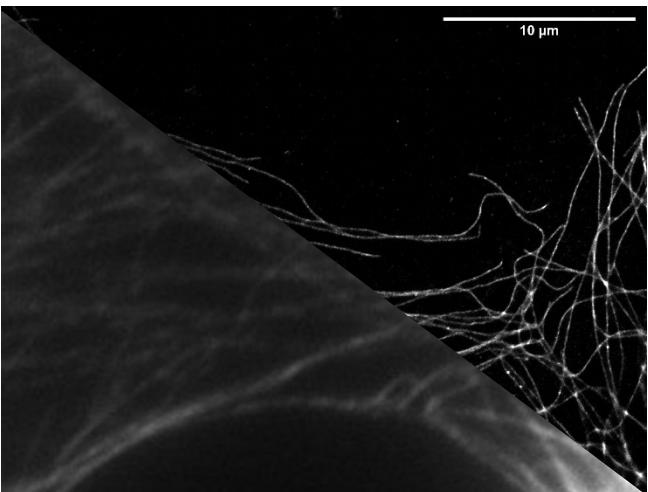
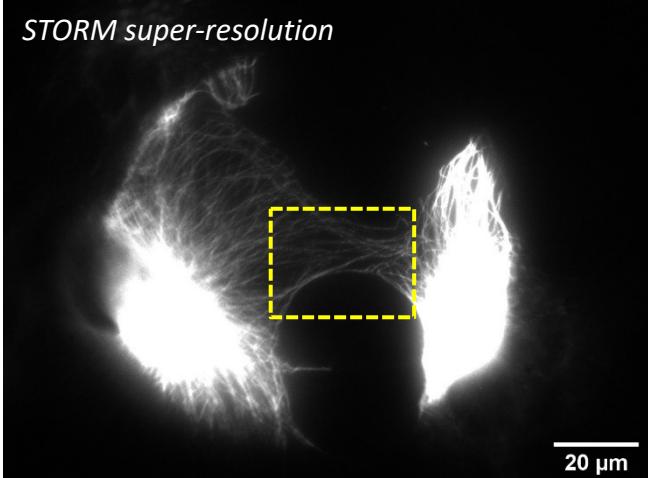
*differentiating monocytes*



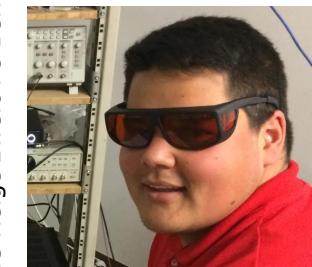
*Inside the incubator – Fully 3D printed*



```
from uc2.modules import smlm
```



Ando Zehrer  
AG Helge Ewers FU Berlin

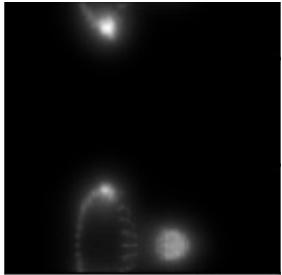


```
from uc2.modules.spim import holosheet
```

Holography



LightSHEET



**Devices:**

- 2 cameras
- LED array
- Laser
- Galvo mirror
- 2 Z-stages
- Tube rotator

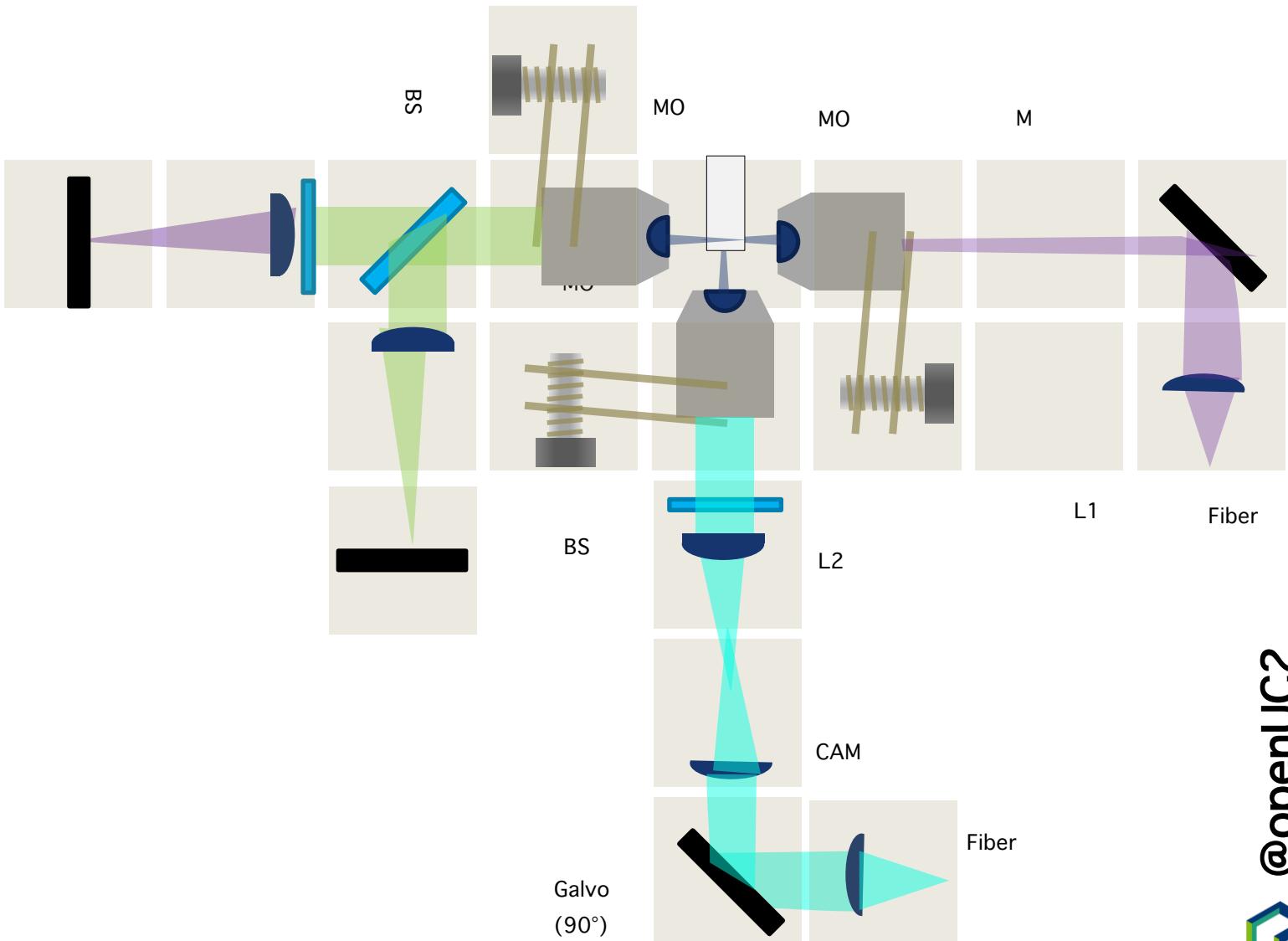
**Processing:**

- Holography reconstruction
- 3D reconstruction

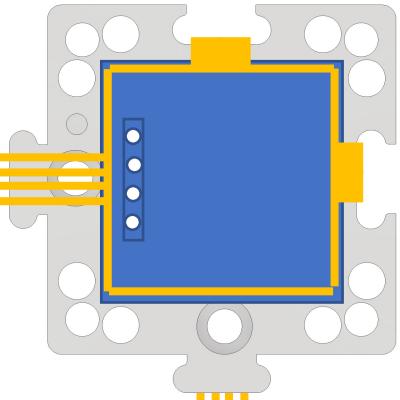


Manu Prakash, Stanford

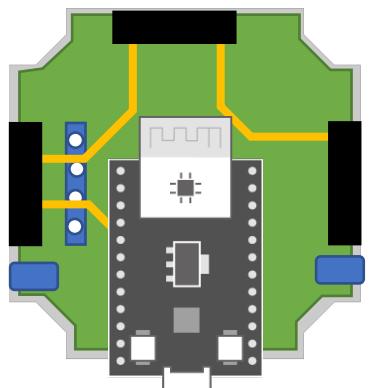
**Setup**



# from uc2 import electronics



Baseplate as a „passive“ connector



Insert as an „passive“ or „active“ connector (e.g. ESP32)

Benedict Diederich  
@beniroquai

New @openUC2 module alert! This time: Modular Electronics. All in one cube. #NotPerfectYet

What would you like to see as being an important part of a microscopy control system? Steppers? LEDs? Lasers? Sensors? Looking forward to hearing your ideas! [github.com/openUC2/UC2\\_Fe...](https://github.com/openUC2/UC2_Fe...)

10:34 AM · Feb 2, 2022 · Twitter Web App

View Tweet activity

5 Retweets 1 Quote Tweet 31 Likes

Reply

Vittorio Saggiomo @V\_Saggiomo · Feb 2  
Replying to @beniroquai and @OpenUc2  
one electronics cube???

topoppe / morph3dbot Public

Code Issues Pull requests Actions Projects ...

master ...

morph3dbot / electronics / board\_template / ESP32 /

topoppe ... on 6 Apr 2021

..

readme.md 10 months ago

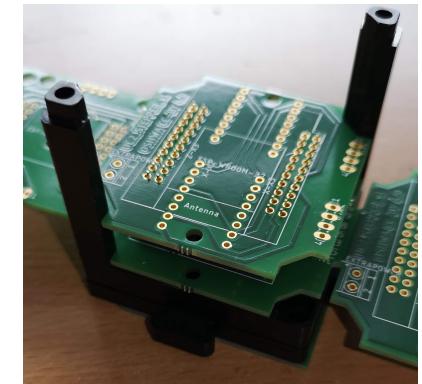
template\_esp32.brd 11 months ago

template\_esp32.sch 11 months ago

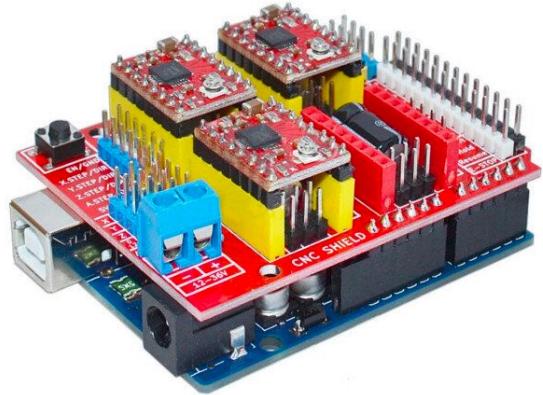
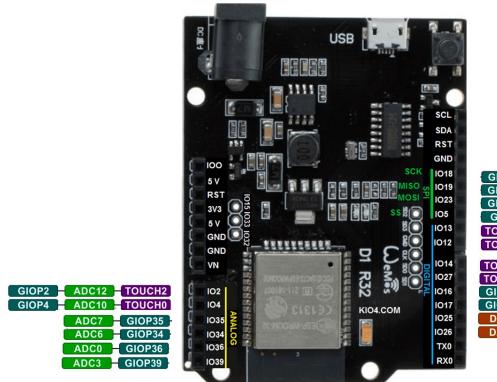
readme.md

## ESP32 Board Template

Bei der ESP32 Platine handelt es sich um eine Arduino-IDE-Kompatible Basisplatine. Diese Platine kann sowohl als Hauptplatine im System, als auch als Slave-Platine genutzt werden.



```
from uc2 import electronics.offtheshelf
```

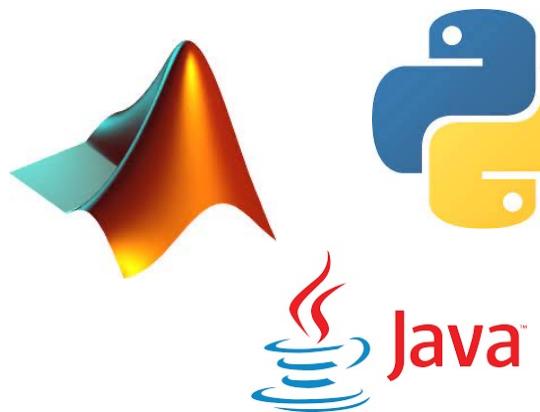
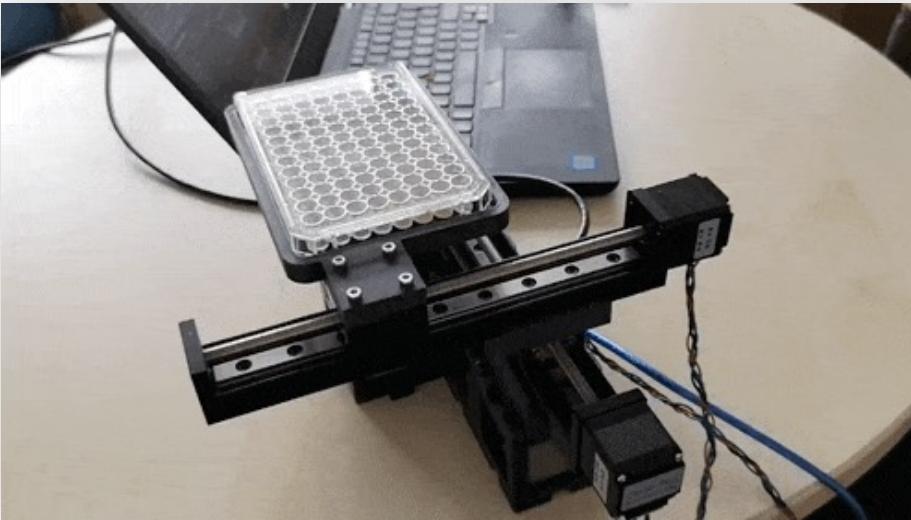






## Stage Properties:

- Axis
- Speed
- Steps
- Acceleration



The screenshot shows the Swagger UI for a microscope stage API. At the top, there's a navigation bar with tabs for "Temperature" (selected) and "Motors".

**Temperature** Getting temperature measurements

**Motors**

**POST /motor\_act** Endpoint for controlling the motor

Move the microscope in XYZ

**Parameters**

No parameters

**Request body** required application/json

Specify the place to move to (as a point) and the thing to move (combining motion target, mount, and model if necessary)

**Example Value** | Model

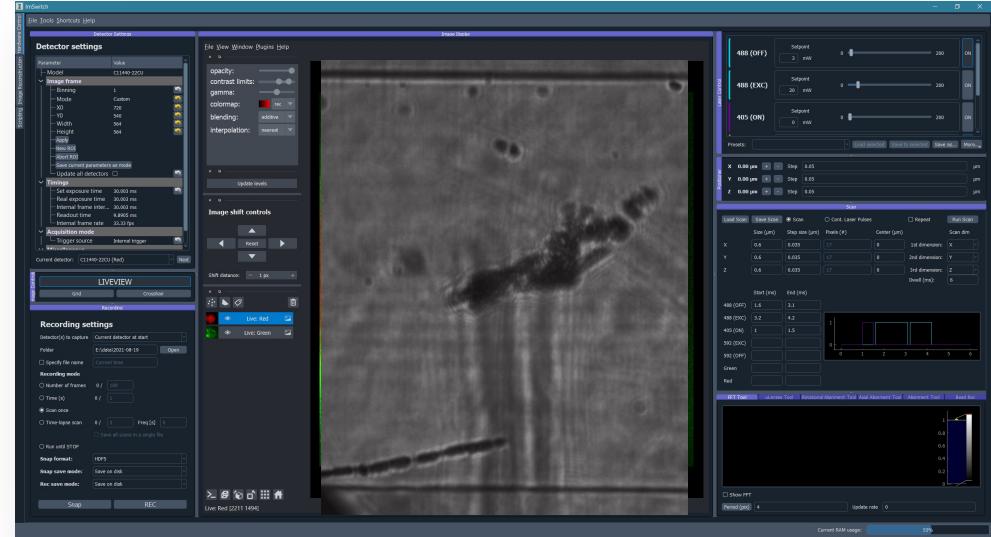
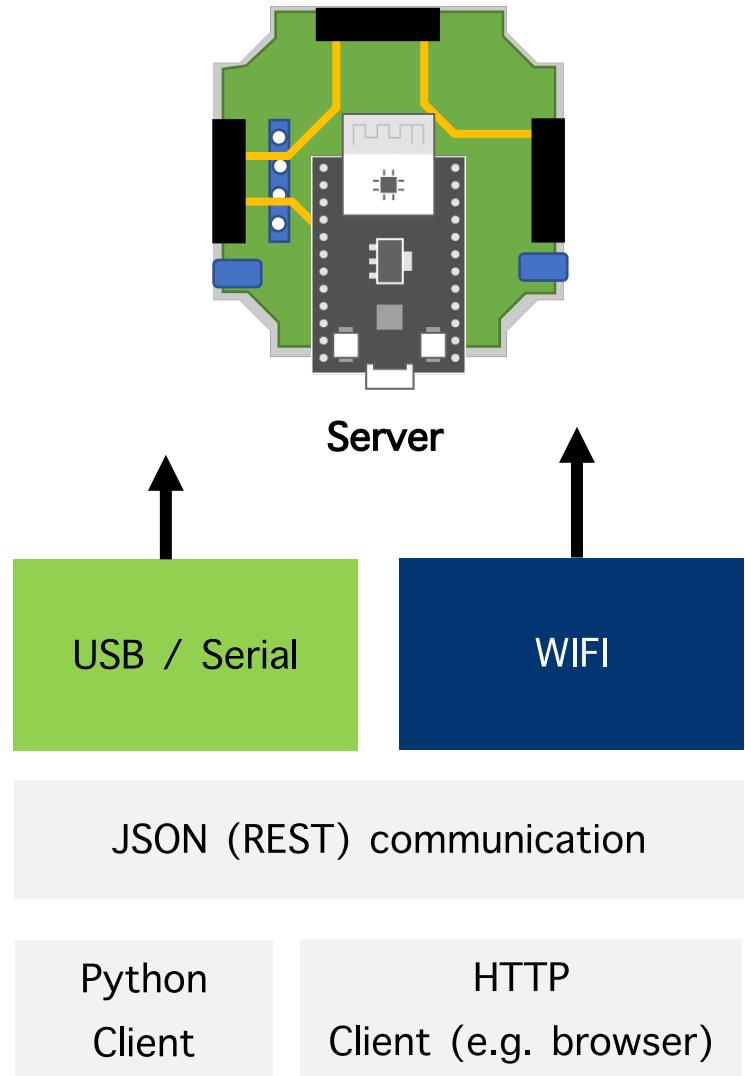
```
{  
  "speed": 0,  
  "pos1": 0,  
  "pos2": 0,  
  "pos3": 0,  
  "isabs": 0,  
  "isblock": 0,  
  "isen": 0  
}
```

**Responses**

Code	Description	Links
200	Move successfully executed	No links

application/json



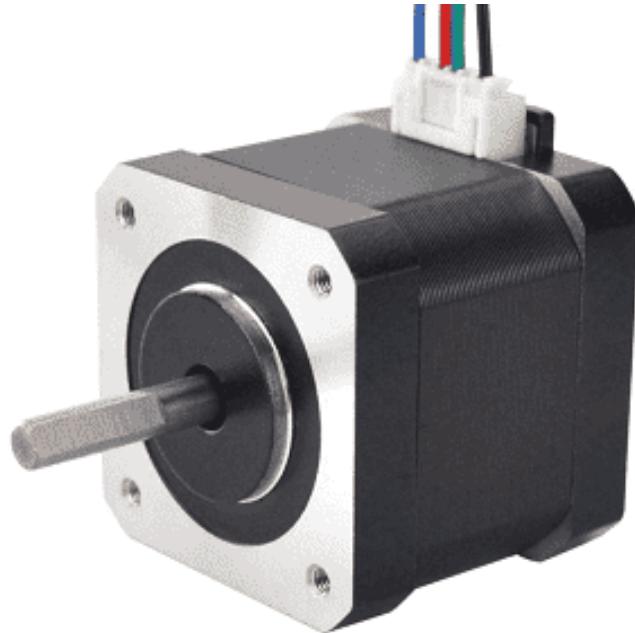


## ImSwitch for

- Image Acquisition
- Hardware Control
- Image Reconstruction
- President

## Example: Move a motor

```
{  
  "task": "/motor_act",  
  "speed": 1000,  
  "pos1": 4000,  
  "pos2": 4000,  
  "pos3": 4000,  
  "isabs": 1,  
  "isen": 1  
}
```



## example: led matrix

```
{
```

```
    "red":193,  
    "green":193,  
    "blue":193,  
    "indexled":27,  
    "Nleds":1,  
    "LEDArrMode":"single",  
    "task":"/ledarr_act"
```

```
}
```



## example: trigger list

```
{  
  "task": "multitable",  
  "task_n": 9,  
  "repeats_n": 5,  
  "0": {"task": "/motor_act", "speed":1000, "pos1":4000, "pos2":4000, "pos3":4000, "isabs":1, "isblock":1, "isen":1},  
  "1": {"task": "/state_act", "delay": 100},  
  "2": {"task": "/digital_act", "digitalid": 1, "digitalval":1},  
  "3": {"task": "/digital_act", "digitalid": 2, "digitalval":1},  
  "4": {"task": "/digital_act", "digitalid": 2, "digitalval":0},  
  "5": {"task": "/digital_act", "digitalid": 1, "digitalval":0},  
  "6": {"task": "/laser_act", "LASERid":1, "LASERval":10000, "LASERdespeckle":100},  
  "7": {"task": "/state_act", "delay": 100},  
  "8": {"task": "/laser_act", "LASERid":1, "LASERval":10000, "LASERdespeckle":100}  
}
```



