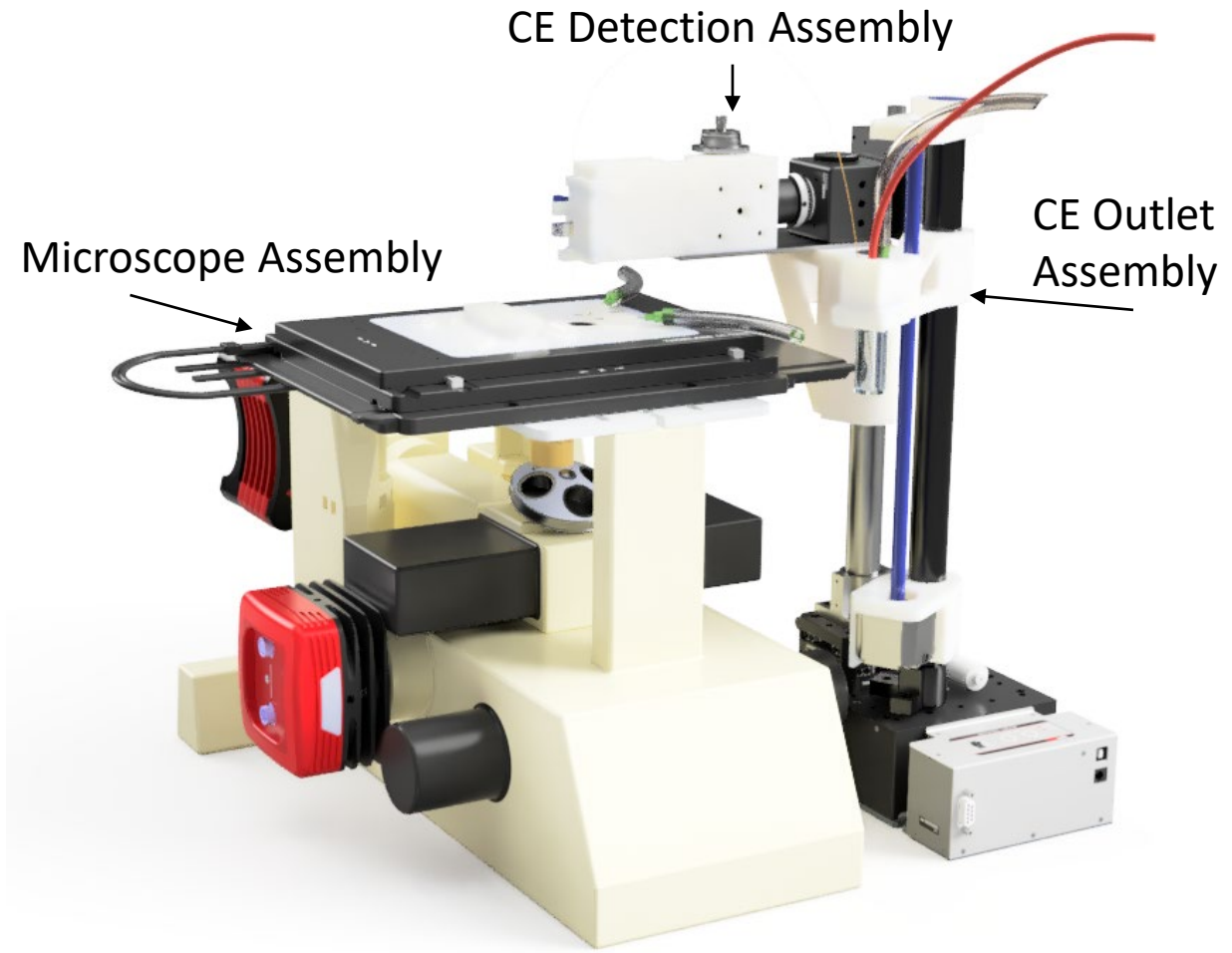


# Instrument Overview

- Hardware setup can be divided into a few key assemblies:
  - Microscope Assembly
  - CE Detection Assembly
  - CE Outlet Assembly

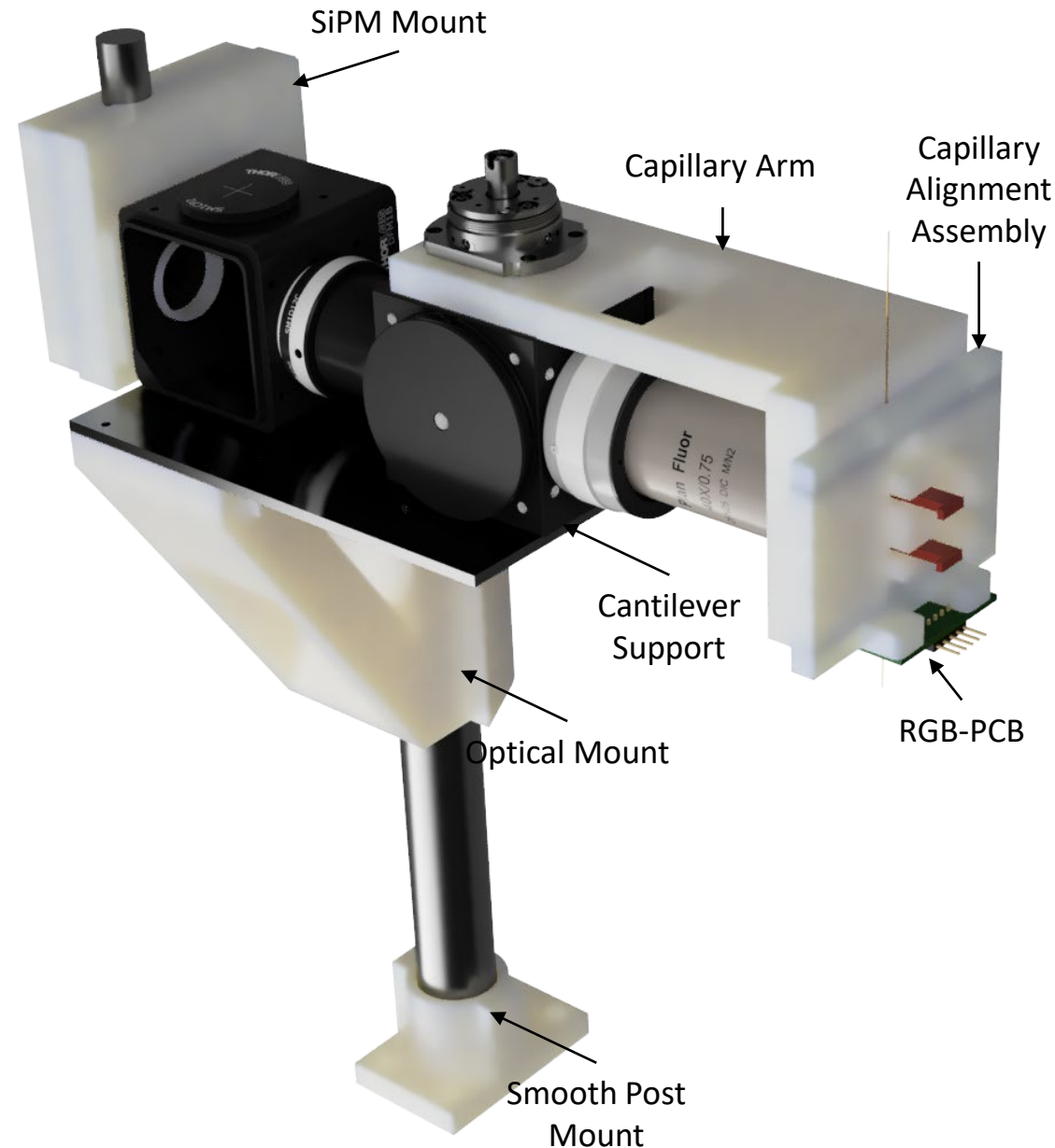


# CE Detection Assembly

## Custom Parts

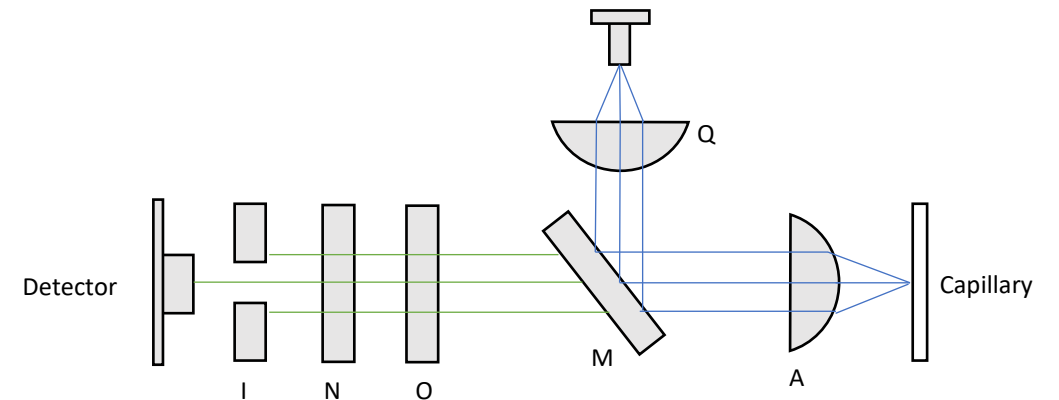
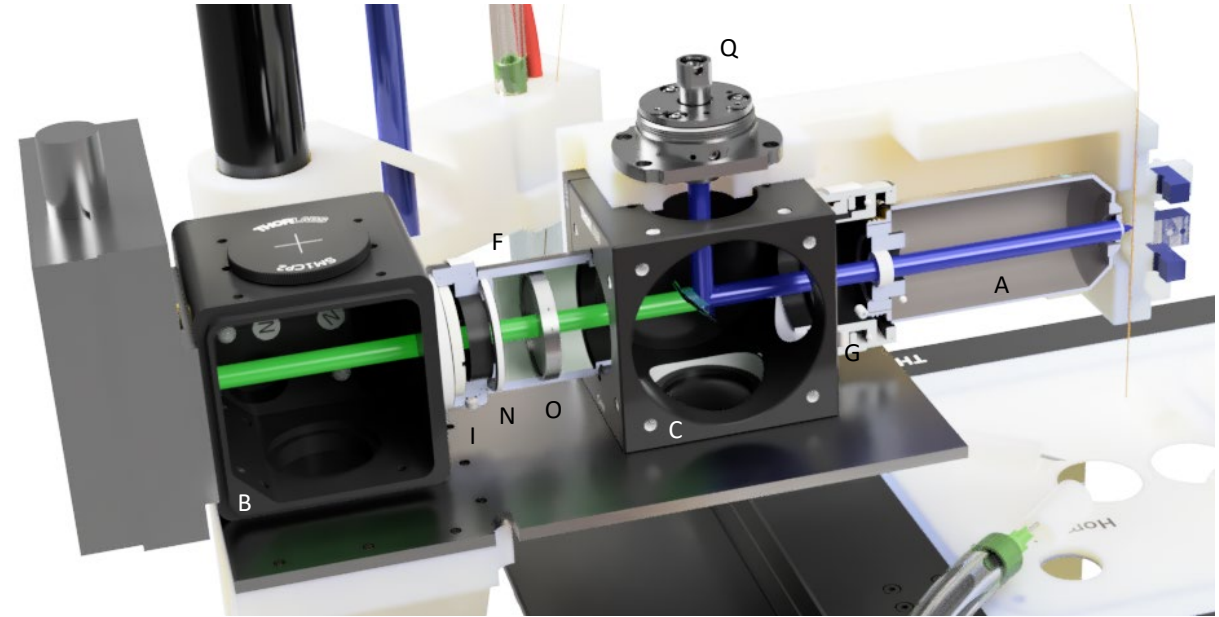
### Custom Material List

Object	Material	Fabrication
SiPM Mount	PLA/PETG	3D Print
Capillary Arm	PLA/PETG	3D Print
Cantilever Support	Aluminum	Mill
Optical Mount	PLA/PETG	3D Print
Smooth Post Mount	PLA/PETG	3D Print
Capillary Alignment Assembly	PLA/PETG	3D Print
RGB-PCB	FR4	EDA/PCB Fab.



# CE Detection Assembly Purchased Components

	Component	Company	Part number	Notes
A	40X Objective 0.75 NA	Nikon		
B	4-Way Mounting Cage	Thorlabs	C4W	
C	Cage Dichroic Filter Mount	Thorlabs	FFM1	
D	Rotatable Cover Plate	Thorlabs	B3C	
E	Blank Cover Plate	Thorlabs	B1C	
F	10 mm Lens Tube	Thorlabs	SM1L10	
G	External SM1 threads to internal M25x0.75 Thread (objective)	Thorlabs	SM1A12	
H	External C-mount to SM1 thread	Thorlabs	SM1A39	*PMT
I	Calibrated Iris Diaphragm	Thorlabs	SM1D12C	
J	SM1 Threaded Manual Shutter	Thorlabs	SM1SH1	*PMT
K	End Cap with SM1 Threads	Thorlabs	SM1CP2	
L	Non Roating adjustable SM1 Lens Tube	Thorlabs	SM1ZM	
M	Dichroic (488 nm)	Chroma	ZT488rdc-UF2 (IN036384)	25.5 x 36 x 2mm
N	Bandpass Filter (525 +/- 25 nm)	Chroma	ET525/50m (IN005750)	25 mm dia mounted
O	Notch Filter (488 nm)	Chroma	ZET488NF	25 mm dia mounted
Q	Fiber Receptacle Collimators	OZ Optics	HPUCO	
P	gasket tape	McMaster-Carr	95705K133	*PMT .02" thick
R	Optical post	Generic		25 mm Diameter



\* Items needed for Hamamatsu PMT detector. Can be ignored when using SiPM

