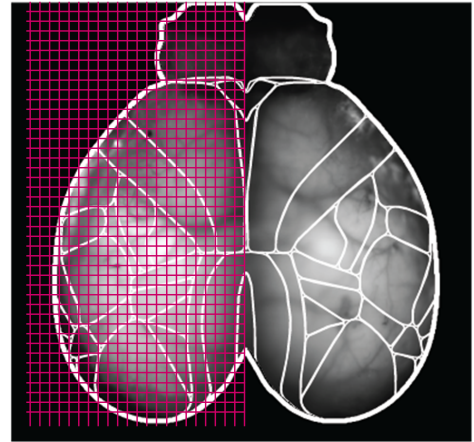


**Patterned Illumination Example**



**Stimulation Grid Search**

**Figure 2: Experimental platform for simultaneous cortex-wide neuroimaging and brain stimulation.** The left-hand panel shows the use of blue and violet light wavelengths for imaging the calcium indicator GCaMP8m across the mouse cortex, alongside orange light to stimulate arbitrarily shaped cortical areas using a low photocurrent opsin. The middle panel depicts an example brain stimulation pattern; a blue LED is shown instead of the actual orange laser used in experiments. The right-hand panel depicts the stimulation grid employed in our initial survey.