

Add-On

Optogenetic Stimulation



- **Optogenetic Stimulation**
- **ChR2, Chrimson, etc.**
- **Synchronized with image acquisition**

Applications:
Neurovascular coupling & functional connectivity studies — Neurological disorders — Pharmacology — Aging Ischemia — Strokes

Integrated & Ergonomic

Save lab space and installation time. Compatible with multiple applications.

Modular System

Laser wavelength can be changed to better suit applications. Fast interchangeable filters and laser source.

Precision

Fast and precise laser control (1 ms) and position (5 μm).

Increased Performance-Price Ratio

Get more functionalities at a lower price.



Optogenetic Stimulator Add-On

Illumination

450 nm laser (589 nm and 660 nm available)
Spot size down to 50 μm
Up to 150 mW/mm^2 power output
High-speed digital laser controller

2D Illumination Scanning

2D high speed galvo mirror system
Rapid pattern cycling

Optics

2 objectives in tandem configuration
Includes dichroic mirrors and optical filters to ensure compatibility with existing applications

Mechanics

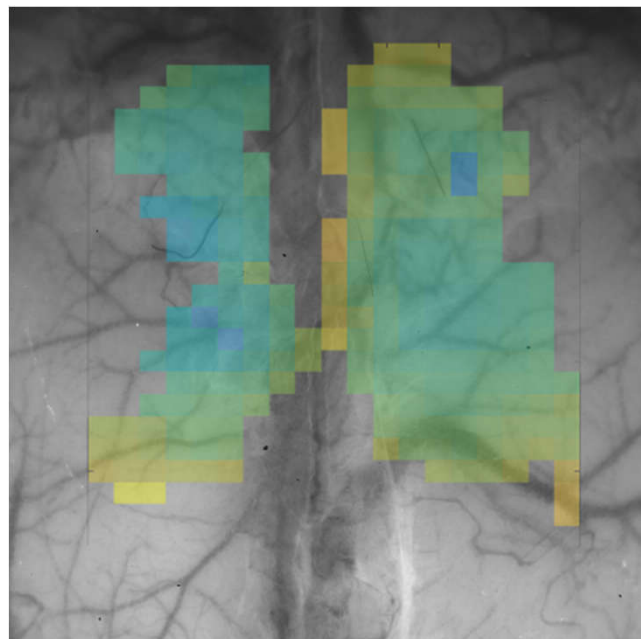
Seamless Integration to the Modular Optical Imaging System, no additional lab space required

Software

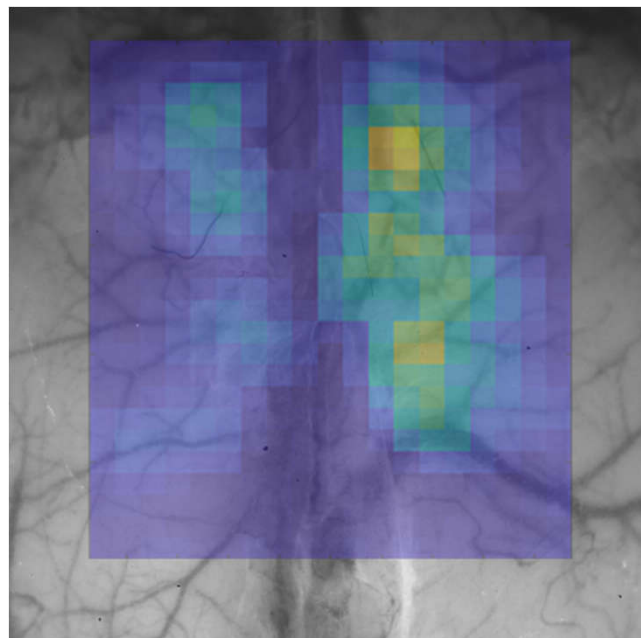
Integrated stimulation map generation
Timing, pattern sequence and digital triggering for complete experiment recording

Spatially Modulated Stimulation

640x360 light modulator
5 mm X 5 mm region
Up to 10 mW/mm^2 power output



Latency map (0 to 50 msec) of the forelimb's movement generated by optogenetic stimulation.



Amplitude map of the forelimb's movement generated by optogenetic stimulation.

