UGA-42 *GEO*

Selectable Spot Shape System for Photomanipulation

The **UGA-42** ***GEO*** is a programmable illumination system designed for illumination of various, predefined shapes without scanning. Similar to the **UGA-42** ***Firefly***, the positioning of the different shapes in the field of view is done by fast galvanometer scanners.

Applications:

- ***Optogenetics***
- ***Neural Mapping***
- ***Photostimulation***
- ***Photobleaching / FRAP***
- ***Photoactivation***
- ***Photoswitching***
- ***Photoconversion***
- ***Photolysis / Uncaging***
- ***Temperature Jump***

Features:

- Integrated, add-on photomanipulation system
- Programmable, computer controlled illumination using light spots of various shapes and sizes
- Real-time photomanipulation in “click & fire” mode
- Sequential illumination of points and regions of interest in “sequence” mode
- Precise, user-defined spatiotemporal control
- Simultaneous photomanipulation and image acquisition
- Digital & analog modulation of Rapp or third party laser systems (if supported by the laser)
- Up to four lasers independently controlled in one experiment

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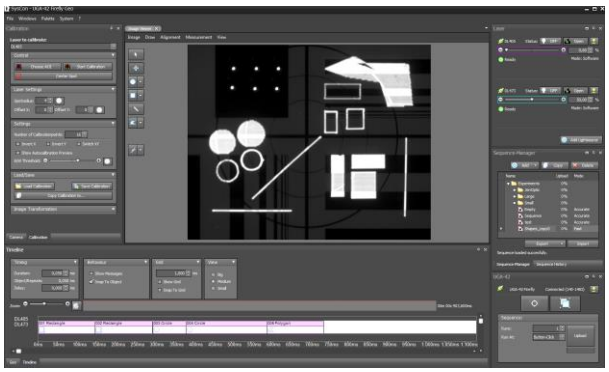
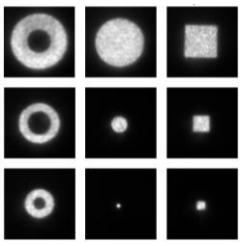
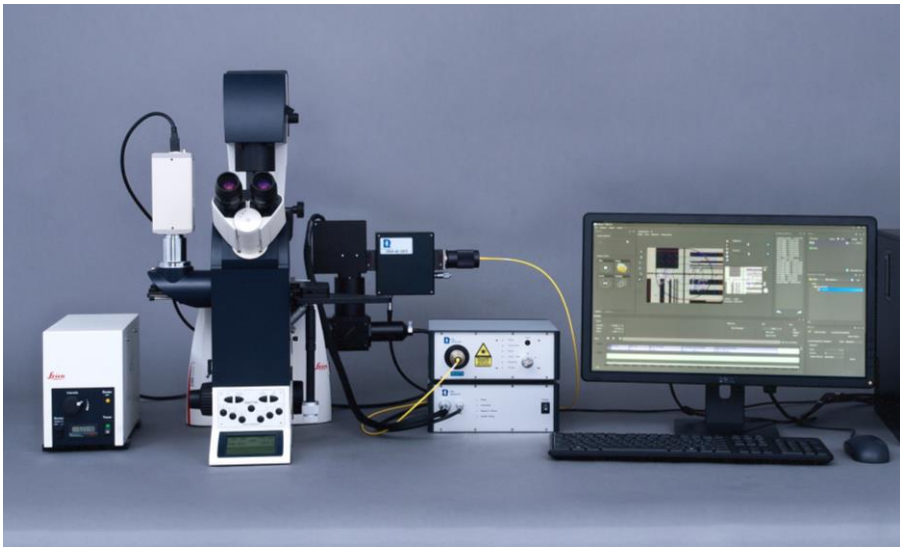
SysCon-Software:

- **Runs independently of and in parallel with 3rd party software** (e.g. imaging, electrophysiology)
- **Communication protocols with Metamorph and ZEN *Blue*; integrated in µManager**
- **Control of multiple lasers within one experiment**
  - Digital & analog modulation for all Rapp laser systems and, if supported, for 3rd party lasers
- **"Click & Fire" mode**
  - Real time photomanipulation
  - Spots & user-defined ROIs are illuminated at the click of the mouse
  - User-defined exposure times
- **"Sequence" mode**
  - Programmable sequential illumination of multiple locations
  - User-defined ROIs
  - User-friendly ROI and timeline editor
- **In/Out TTL-triggers for synchronization**
  - Manual or TTL-triggered sequence start
  - Separate triggers for single events within the sequence
  - User-defined TTL-outputs to control other devices



UGA-42 *GEO* vs. UGA-42 *Firefly*





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Creative Solutions for Microscopy

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