

# FiberOptoMeter III

## In-vivo optical $Ca^{2+}$ -Recording

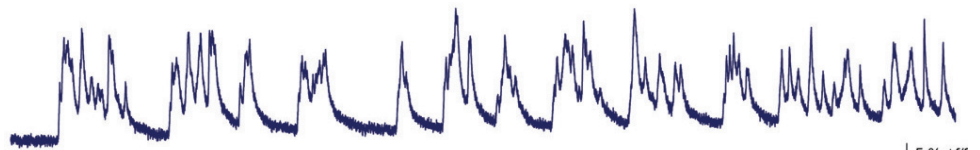


- In-vivo  $Ca^{2+}$  fluorescence measurement through optical fiber
- Improved design using **new detectors** with superior capabilities
- Output signal filter improves signal to noise ratio
- Available with multiple fibers

### Typical $Ca^{2+}$ -Traces:

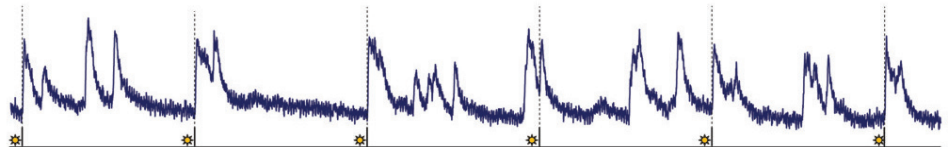
**Upper trace:**

Slow calcium waves (isoflurane 1.5%)  
spontaneous activity (200  $\mu$ m fiber)



**Lower trace:**

Same measurement as above,  
visually evoked (\*) and  
spontaneous slow calcium waves



$Ca^{2+}$  fluorescence indicator OGB-1 was injected into the visual cortex of a mouse.  
Data kindly provided by Dr. A. Stroh and M. Schwalm.

REF: **Monakhov et al.** (2019) Bright near-infrared genetically encoded voltage indicator for all-optical electrophysiology, bioRxiv <https://doi.org/10.1101/536359>

**Grund et al.** (2019) Chemogenetic activation of oxytocin neurons: Temporal dynamics, hormonal release, and behavioral consequences, Psychoneuroendocrinology, Volume 106, 2019, Pages 77-84, <https://doi.org/10.1016/j.psyneuen.2019.03.019>

# SPECIAL FiberOptoMeter: High Power Output

- Dual fiber system
- 2 x High Power LED
- 1 x standard LED
- 3 x PMT detector



## LDU-01D Laser Driver Unit



- Optogenetic stimulation  
Choose from various wavelengths: 360 nm, 473 nm, 532 nm, 561 nm or 589 nm
- Fiber connector
- High Output Power  
( $\geq 100\text{mW}$  CW at Fiber End)
- Analog Modulation or TTL gate  
(max. Frequency: 1 kHz)

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