LIGHT CONVERSION

Privately owned company

R&D department: 15% of employees

Production capacity: > 1000 lasers/year

1994

Established with roots at Vilnius University

800

Employees

140M

Turnover, €
2025

10 000

Installed base

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LIGHT CONVERSION

Extending the CRONUS-2P range

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CRONUS | 2P

Two new models

New models with integrated AOMs for power control

All models with software controlled GDD precomp

All models have a fixed 1025 nm output

New models:
pulse width < 120 fs

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ČRONUS | 2P

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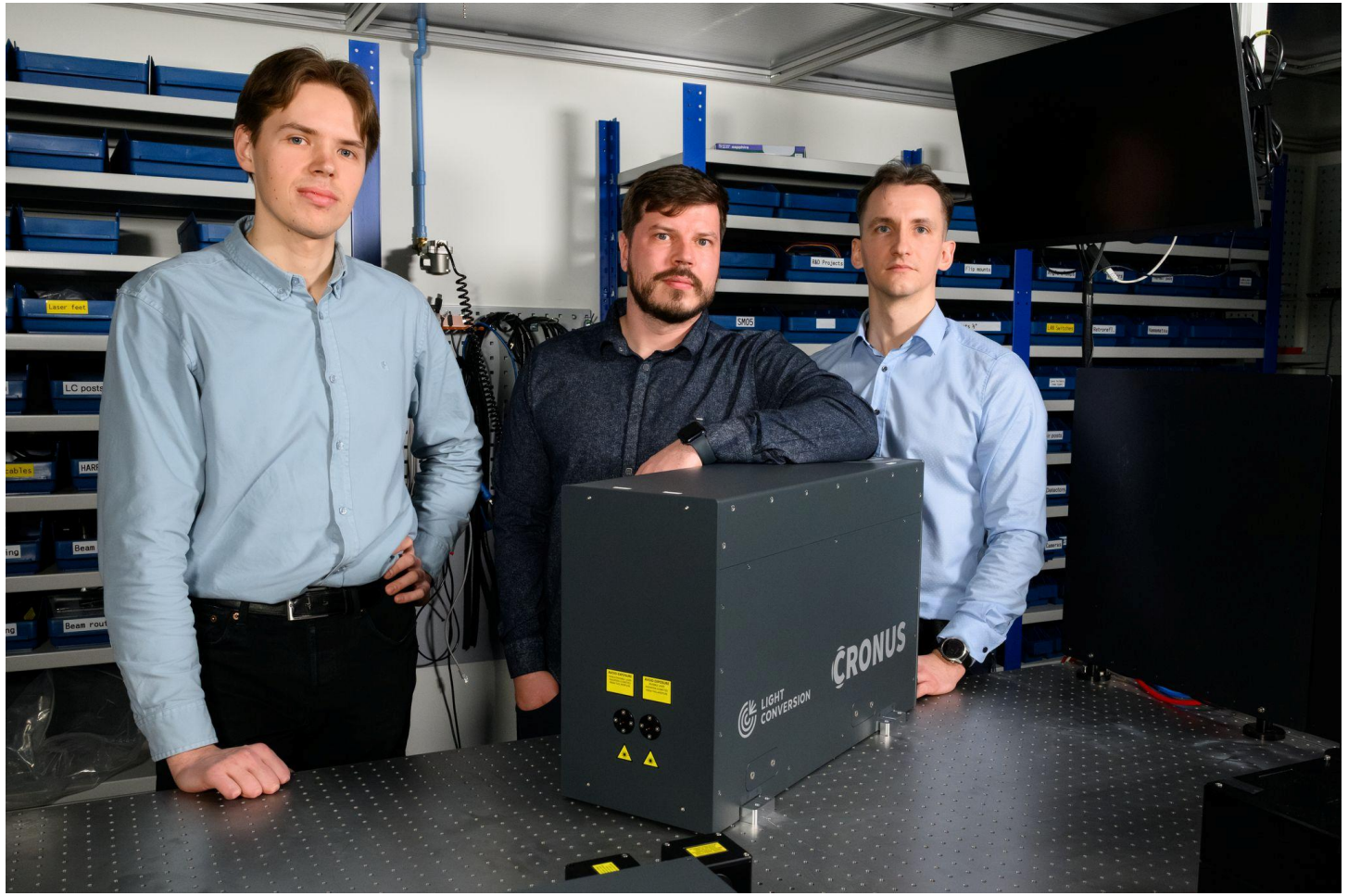

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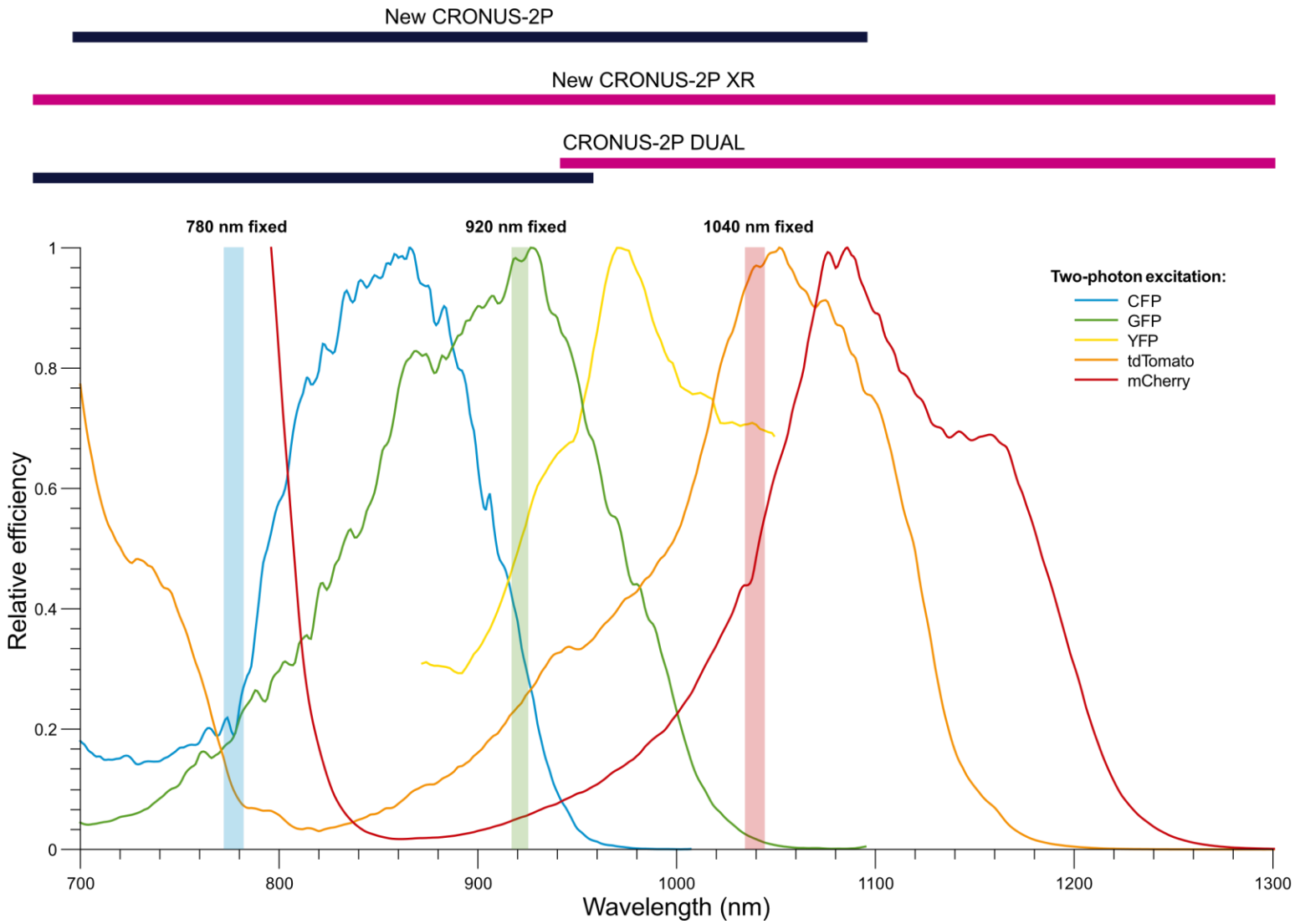
CRONUS | 2P

CRONUS-2P:
700 – 1100 nm

CRONUS-2P XR:
680 – 1300 nm

CRONUS-2P DUAL:
680 – 960 nm
960 – 1300 nm

All with fixed 1025 nm output



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Melding two- and three-photon applications

Intermediate repetition rate

- OPA running at 2 to 10 MHz
- Fixed at 920 nm or 1300 nm (variants are possible)
- At 920 nm: > 2.5 W
- At 1300 nm: > 2 W
- Short pulses (< 50 fs)
- Tunable GDD integrated
- Slow power modulation integrated
- Fast pulse picking integrated

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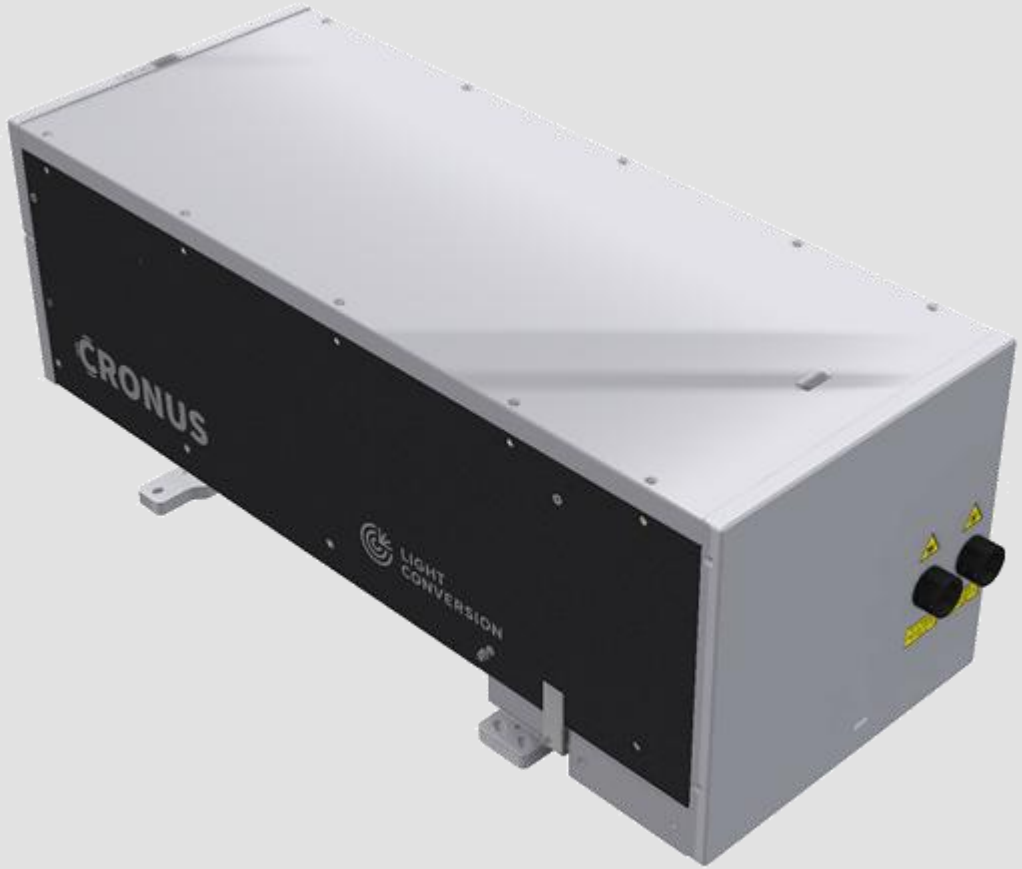
Target applications

- High pulse energy 2P (10 MHz)
  - Widefield imaging
  - 2P light sheet microscopy
- Resonant 3P imaging (4 – 5 MHz)
  - Fast imaging in deep cortex
  - Excitation gating for more depth
- You tell us…



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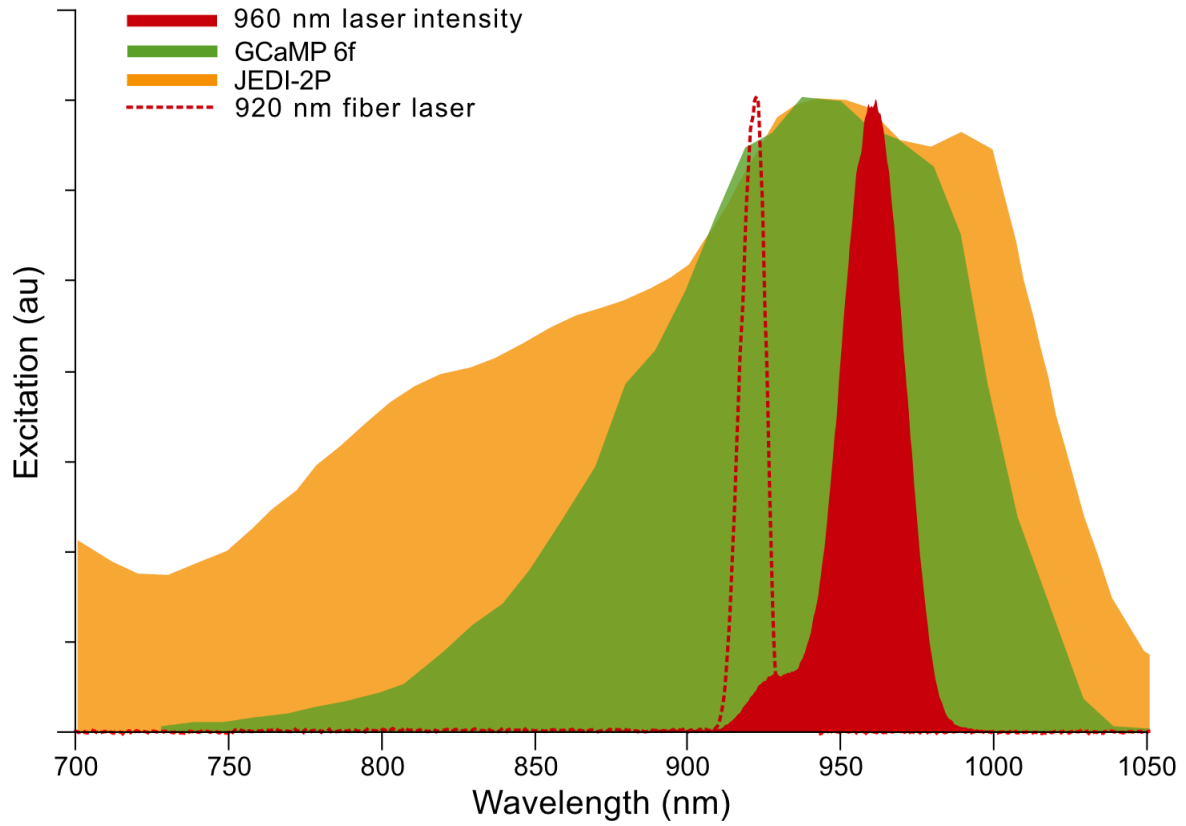
A novel 960 nm laser

Femtoseconds with
confidence

Spectra

- New laser is centered at 960 nm
- Fits GCaMP-family very well
- Ideal for mNEON-based probes
- Ideal for JEDI-2P



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Voltage imaging

Article | Published: 15 April 2026

Designer indicators for two-photon recording of subthreshold voltage dynamics

Michelle A. Land, Mario Galdamez, Vincent Villette, Jun Zhu, Xiaoyu Lu, Mate Marosi, Shuyuan Yang, Gregory Foran, Alex J. McDonald, Xiaoyu Dong, Elsayed Zaabout, Haixin Liu, Zhuohe Liu, Kevin L. Colbert, Shujuan Lai, Matthew Shorey, Anthony S. G. Lourdiane, Annick Ayon, Jonathan Bradley, Caroline Mailhes-Hamon, Ryan G. Natan, Jian Zhong, Ryan Kroeger, Robert G. Law, ... François St-Pierre

*Both indicators exhibited excitation spectra similar to JEDI-2P, with **a peak at 940 nm** and a broad profile maintaining over 85% of peak excitation between 920 and 1,000 nm. While most in vivo applications were conducted at or near the peak wavelength, **illumination at red-shifted wavelengths such as 980 to 1,000 nm would reduce scattering and could provide enhanced deep-tissue performance**. For example, illumination at 980–1,000 nm can provide 90-95% of excitation at 940 nm.*

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Low repetition rate

- Lower repetition rate means higher pulse energy.
- Going from 80 to 10 MHz corresponds to an 8-fold fluorescence increase.
- Increase of SNR without increasing heat load.

$$F_{2P} \propto P_{peak} * P_{average}$$

$$P_{peak} = \frac{P_{average}}{R_{rep} * \tau_{pulse}}$$

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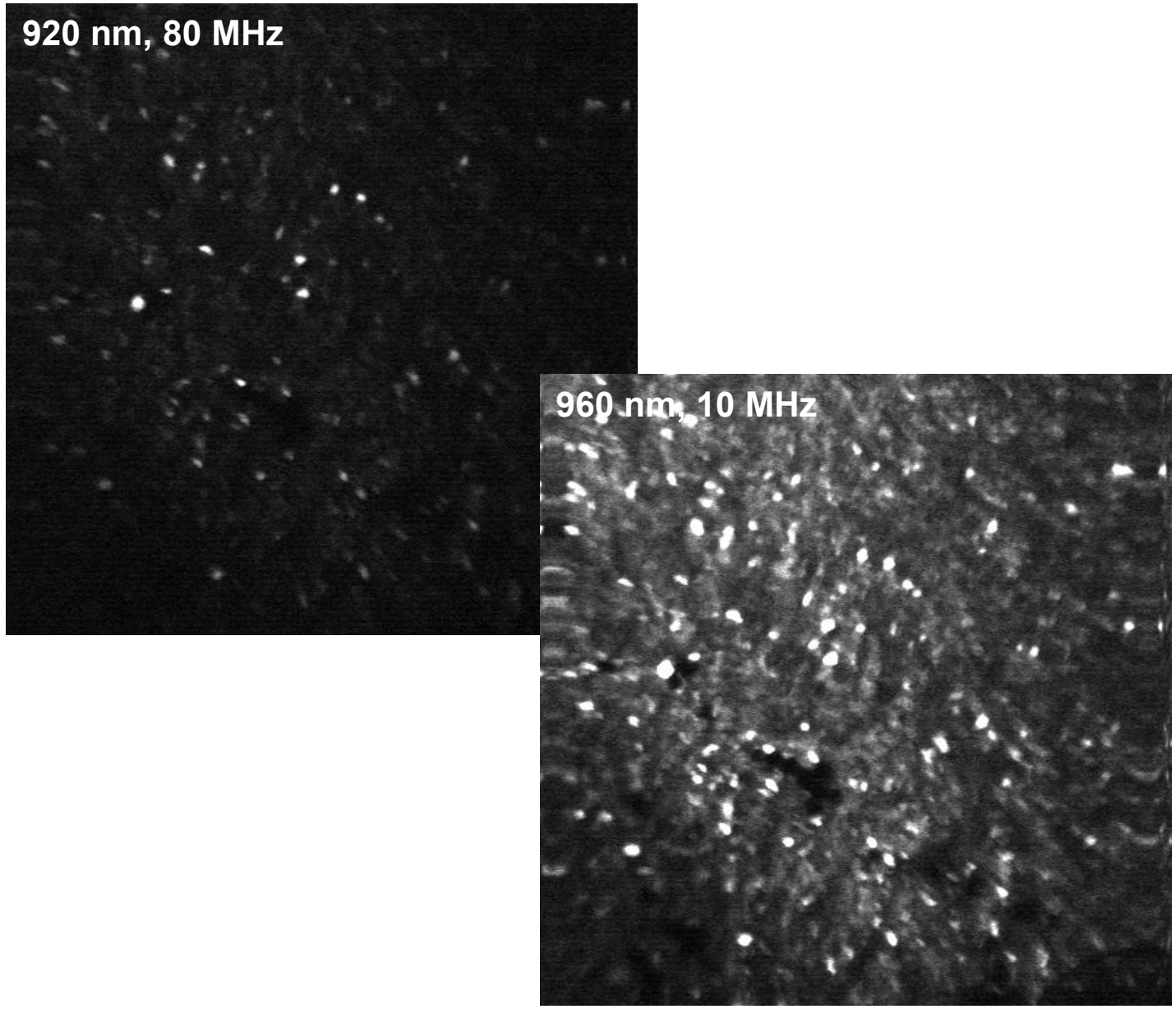
Advantage of low repetition rate

- Imaging of chick retina expressing **iGluSnFR**
- Both images with 100 mW into microscope
- Left: standard fixed 920 nm laser (80 MHz repetition rate)
- Right: new 960 nm laser (10 MHz repetition rate)



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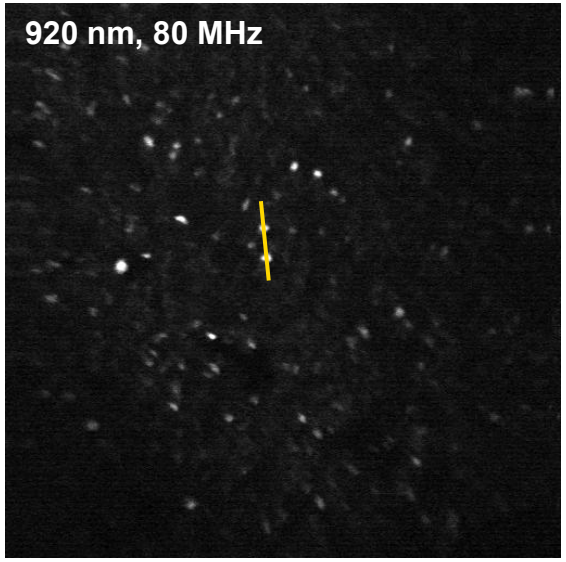

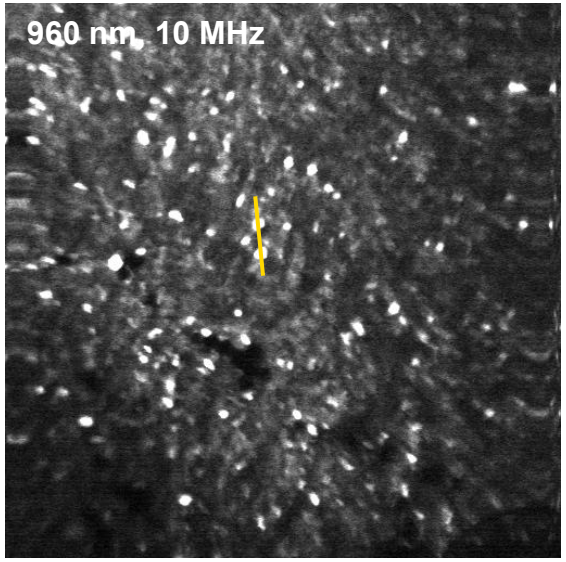

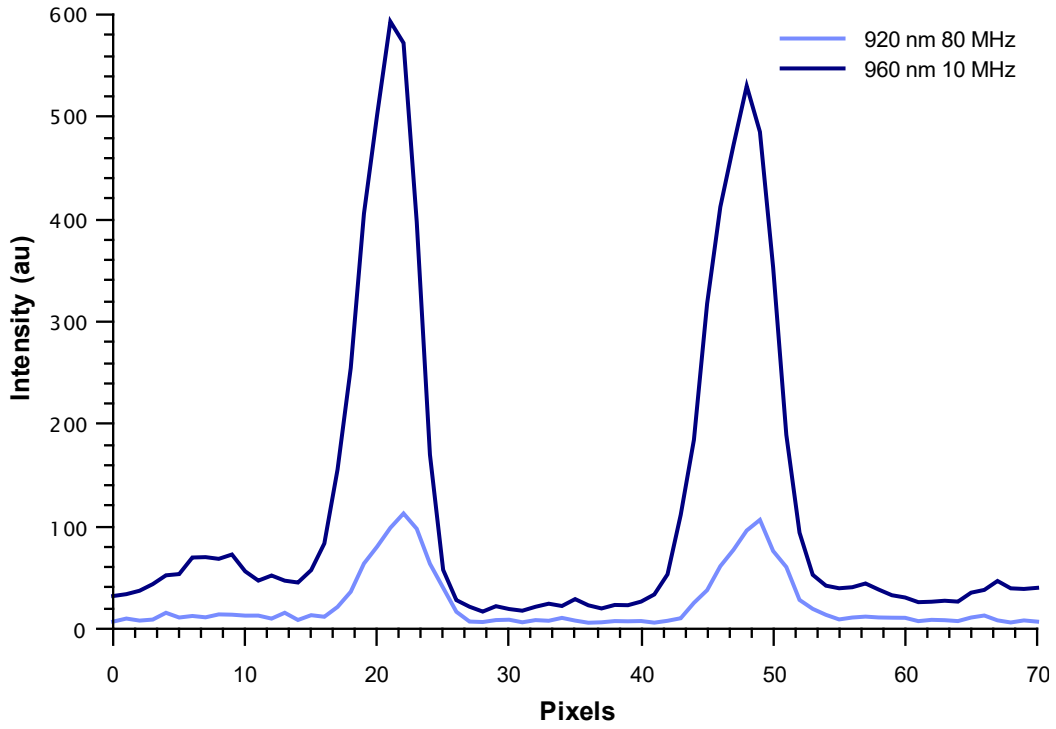

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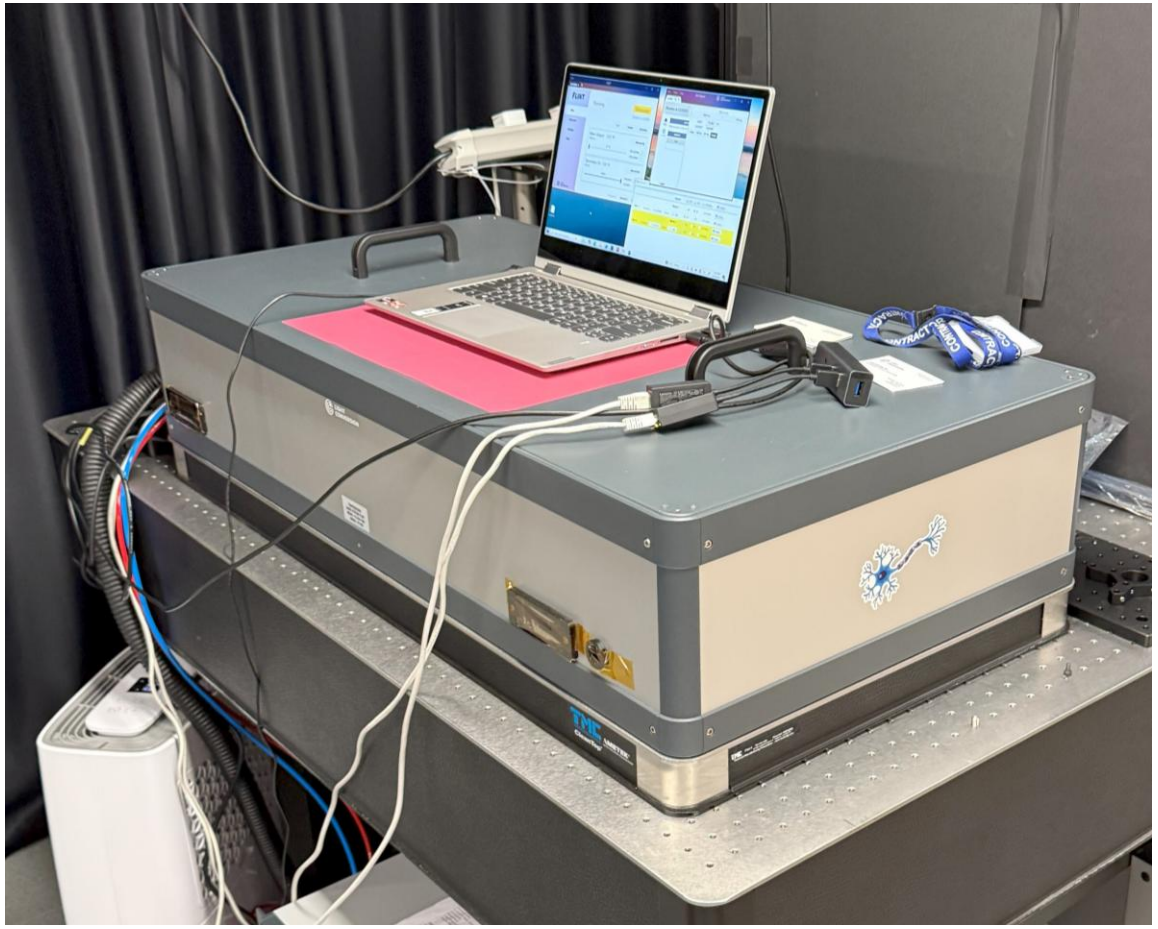
In real life

- Enclosure is 100 cm x 50 cm
- Comes with chiller
- Easy to transport and move
- Proven to be stable in transport



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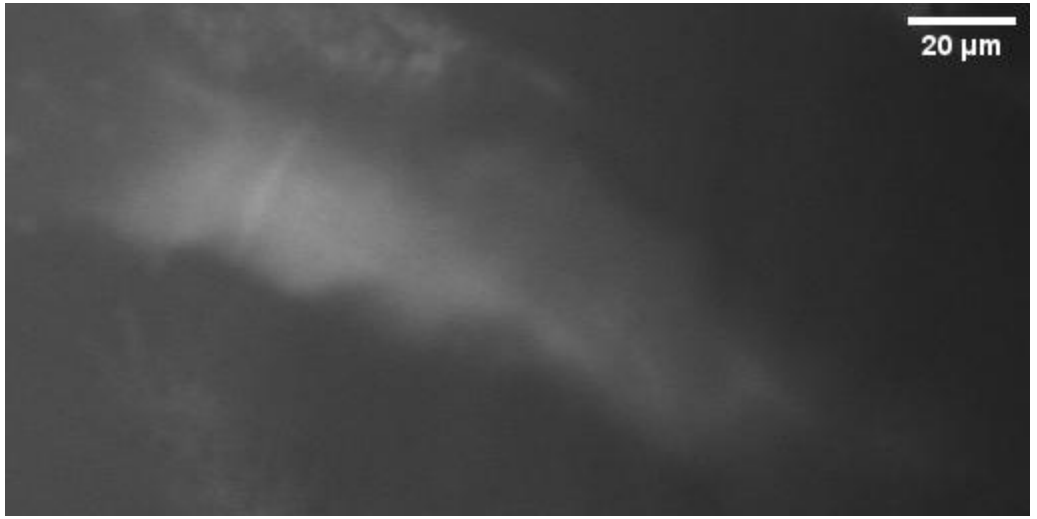
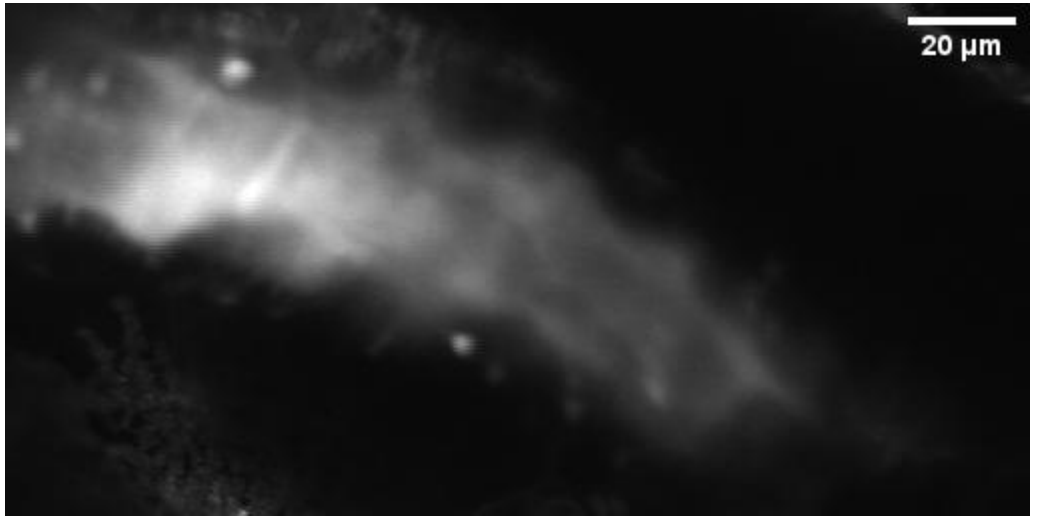
Advantage of low repetition rate

- Imaging of zebra fish tectum expressing **GCaMP**
- Both images with 100 mW into microscope
- Top: standard fixed 920 nm laser (80 MHz repletion rate)
- Bottom: new 960 nm laser (10 MHz repetition rate)

Standard 920 nm fixed-wavelength laser



Novel 960 nm laser



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Thank you!

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