NeuroNexus

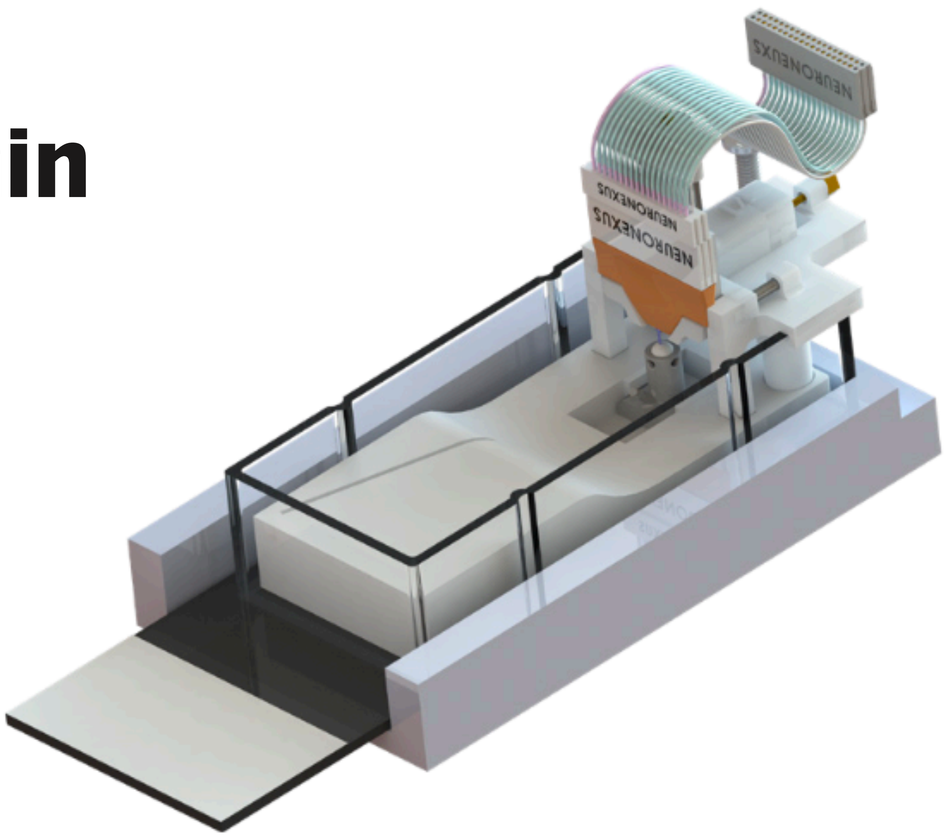
neuronexus.com

Vitastem™

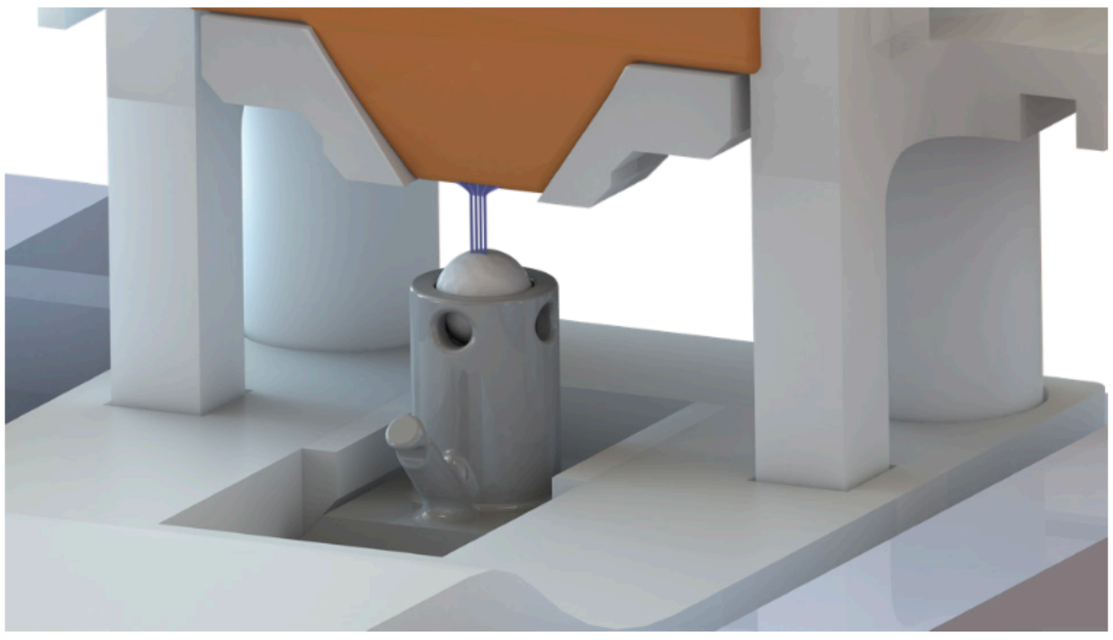
Organoid Electrophysiology Platform

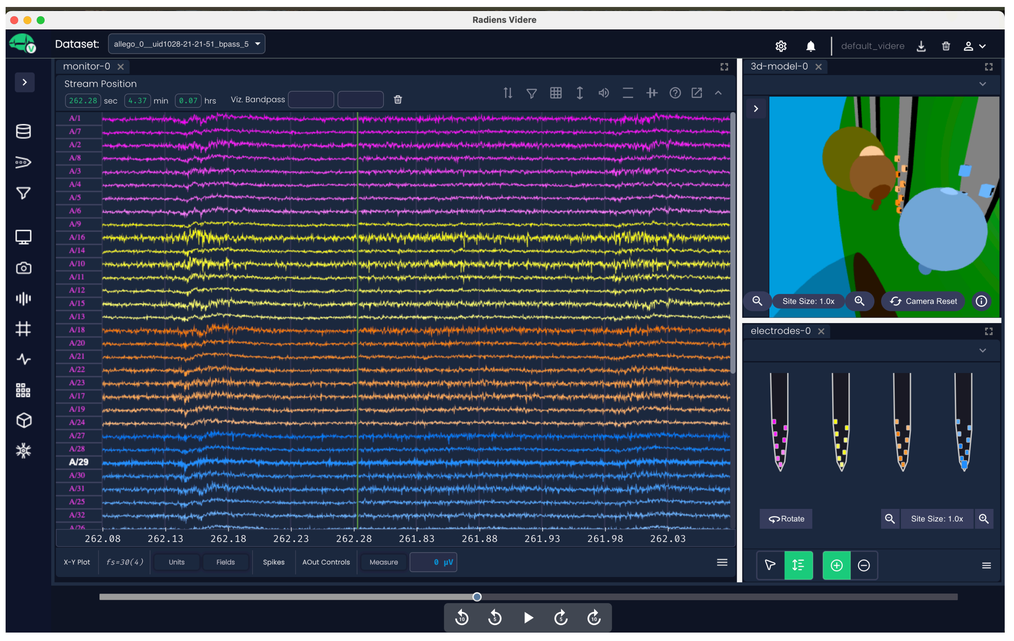
Vitastem™: Record from Within

- High-fidelity, 3D Electrophysiological Biomarkers (neuronal recording, stimulation, optogenetics, microfluidics)
- Organoid retains its 3D structure and viability over time
- Scalable to Multi-well Workflows
- Complete Turn-key Solution compatible with existing ePhys Systems



Vitastem™ is a fully-integrated platform designed for electrophysiology assays of intact organoids. Vitastem uses trusted NeuroNexus silicon probe technology, hardware, and software to acquire high-fidelity, spatially-registered neuron and circuit-based functional biomarkers over timescales of milliseconds to days.





Specifications

Organoid Diameters Supported	2-5 mm
Channel Count	16, 32 (integrated drive mounted), 64, 128 & 256 (external drive)
Electrode Site Layout	Linear, Buzsaki, polytrode, tetrode, edge, customizable
Electrode Thickness	15 µm or 50 µm
Electrode Site Material	Iridium, Z-Coat
Shanks	Quantity: 1 to 8 / Length: 3-10mm

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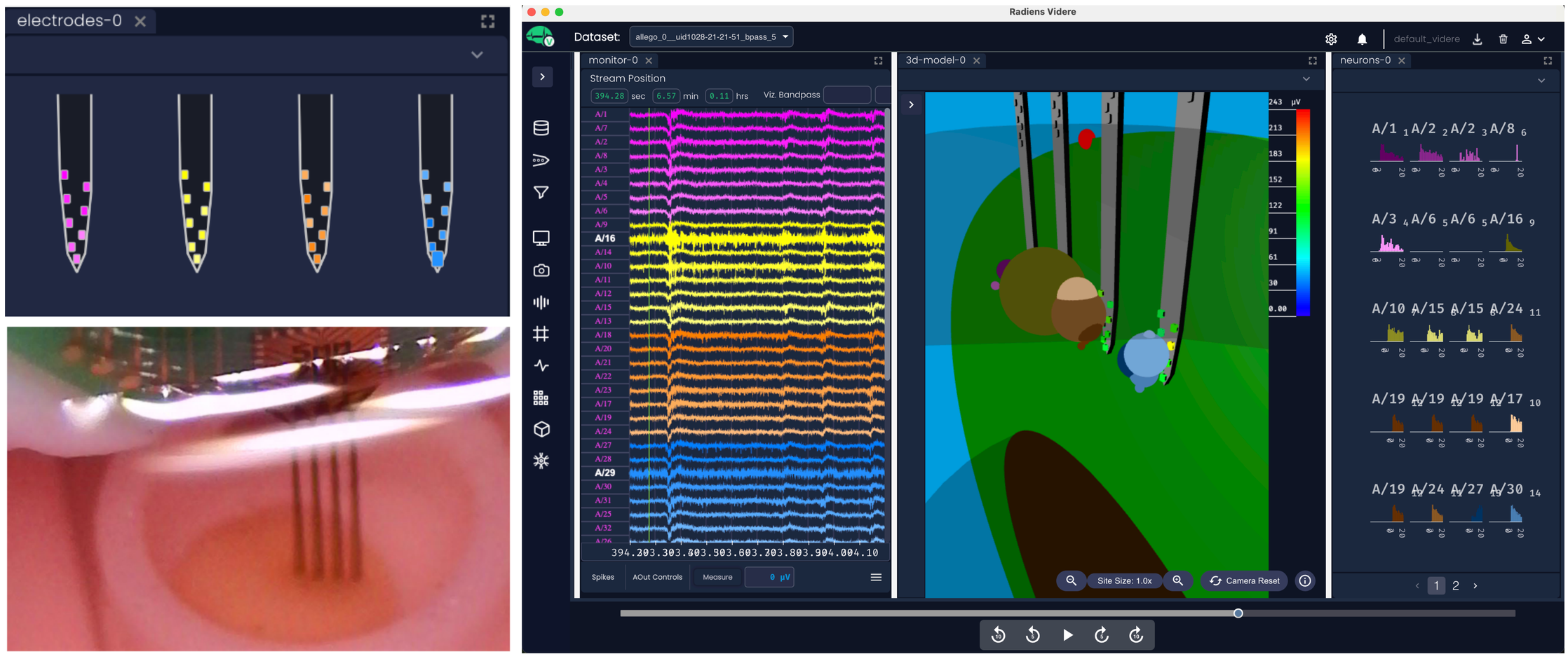
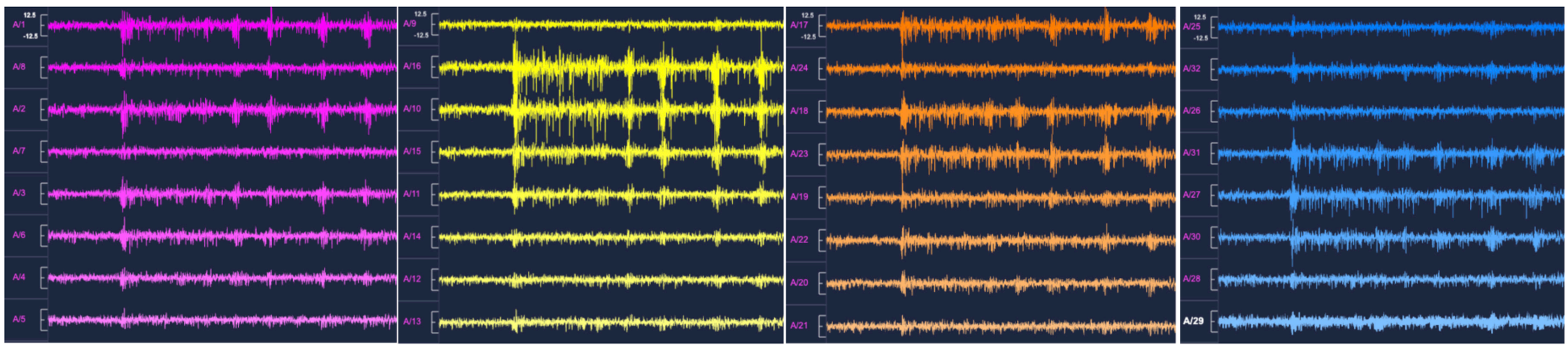
- **Flexible probe selection and full-volume recording**: Choose from among hundreds of NeuroNexus probe designs and capture high-quality signals in spatially precise regions within the organoid.
- **Secure, adaptable sample handling**: A custom well-plate/chamber with integrated organoid baskets (multiple sizes included) holds organoids safely during recordings and enables electrode withdrawal for organoid retrieval.
- **Reusable electrodes with included cleaning system**: Cleaning basket allows safe and efficient electrode reuse, reducing cost and setup time.
- **Incubator-compatible system**: Integrated electrode drive, cable management, and a stable base allow the entire setup to be easily moved into and out of the incubator for stable recordings under physiological conditions.
- **Seamless hardware and software integration**: Fully compatible with NeuroNexus recording and stimulation intrumentation and Radiens software for streamlined setup, control, and data acquisition.





In collaboration with P. Arlotta lab, Harvard University

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