

Chronic recoverable Neuropixels 1.0 in mice

Based off the original chronic recoverable implant design (Juavinett et al, 2019)

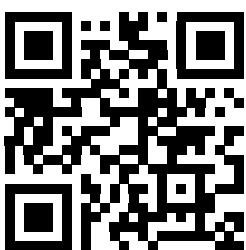
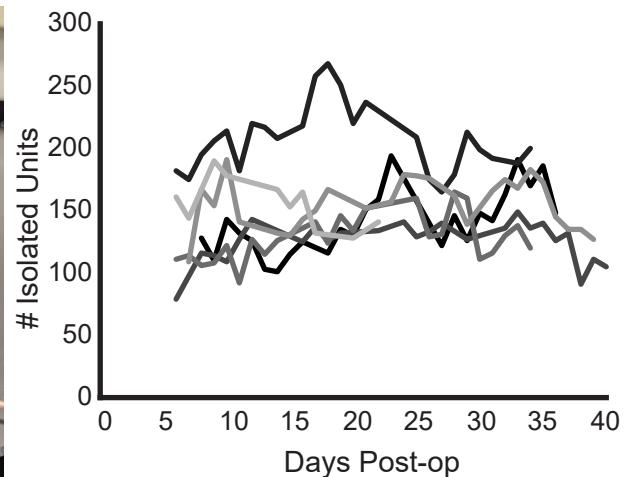
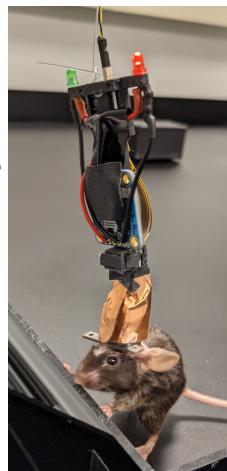
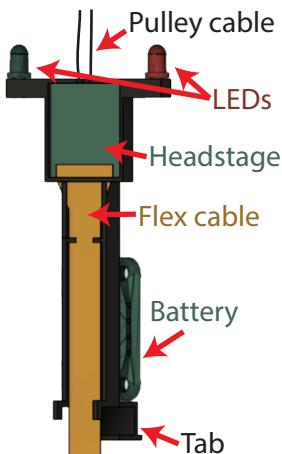
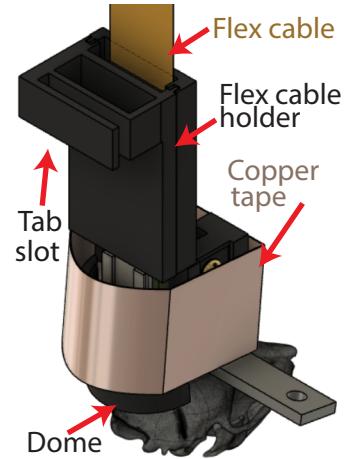
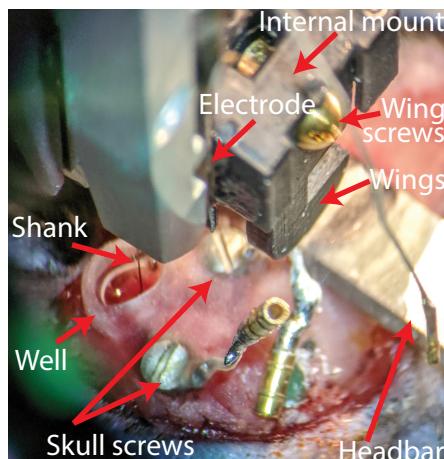
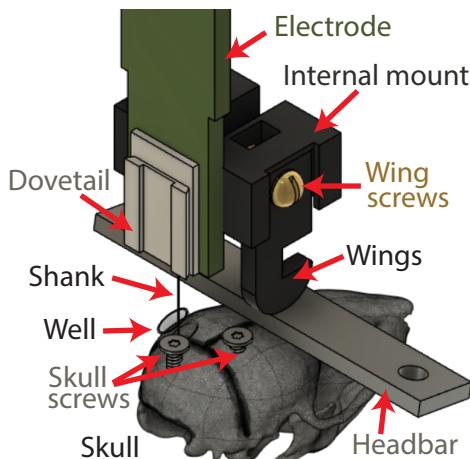
Modified by Janna Aarse, then by Emily Aery Jones

See also other chronic recoverable designs:

* for rats (Luo & Bondy et al, 2020)

* Neuropixels 2.0 (Steinmetz, Aydin, Lebedeva, Okun, & Pachitariu et al, 2021)

* overview: Neuropixels 2021 course lecture 3.7 by Yoh Isogai, on Youtube



Detailed protocols
and build files at
qrco.de/neuropixels

1. To improve yield and reduce tissue reaction, probe is sharpened and rinsed in IPA and mouse is treated pre- and post-op with dexamethasone
2. Internal mount permanently affixed to probe, wings reversibly attached by screws
3. Headbar attached to allow headfixation during recording or plugging in
4. Small craniotomy surrounded by well, then filled with Dow-Sil
5. Dental cement ring attaches wings and dome to skull, covered by copper tape, then flex cable holder secures flex cable on animal
6. Headstage holder attaches to flex cable holder, provides battery-powered tracking LEDs, and allows lift from pulley to counter weight
7. To explant, remove tape, unscrew wings, and retract probe