

Fig. 1: Concept of a multi-contact neural probe on an optical fiber substrate: 4-channel tetrodes are printed on each of 4 sides of a fiber.

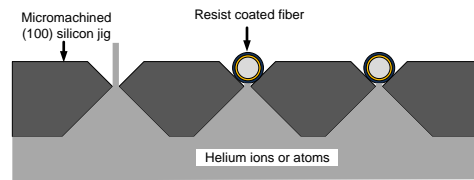


Fig 2: Exposure jig for metallization lines running the length of the fiber formed by two intersecting families of V-grooves on opposite sides of a (100) silicon wafer.

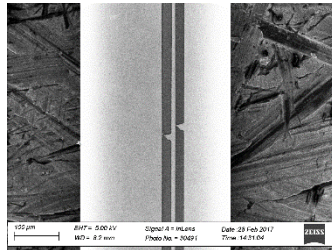


Fig 3: Resist (dark) image of 2 offset prints of a 20.0 µm wide mask opening in negative tone resist on a gold-coated optical fiber, 300 µm in diameter. The image on the left has been shifted up and to the right by 21.5 and 29.5 µm, respectively, by tilting the mask relative to the beam.

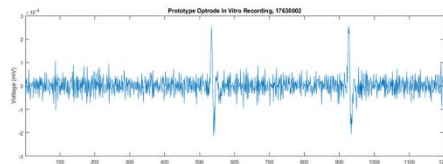


Fig 4: In-vitro recording of extracellular action potentials in a brain slice after a 3-week battery of bench tests including a) soaking in warm phosphate buffered saline with and without stimulation, b) repeated insertion in agar and a stainless steel cannula, d) disinfection in MetriCide-2.6% glutaraldehyde, and 6 hour implantation in mouse brain). Impedance spectra are the same before and after these bench tests.