



Sede di Pisa

ANNEX: TECHNICAL SPECIFICATIONS MULTICHANNEL RECORDING SYSTEM

We require the presentation of offers for a multichannel recording system, which allows high-quality, low-noise recordings from 16 or 32 neural channels from the rodent brain, using a reliable data acquisition system. The apparatus should be able to record and process both spiking activity and local field potentials (LFPs). The system should process signals from low- and high-impedance electrodes without introducing a phase-shift in the LFP and Spike streams. A switchable amplifier filter bandwidth for quasi-DC recordings is desirable. An amplifier with fast recovery circuitry resistance to recording-channel saturation during or after electrical stimulation on nearby electrodes is also desirable. The system should employ miniature headstages for high quality data acquisition from mice. The system should be upgradable to higher channels counts. The data acquisition system and its associated software (spike sorting and LFP analysis) should be powerful, intuitive and easy to use. The system should support various types of electrodes and electrode arrays. Digital referencing to allow user to select an electrode as the reference for other electrodes is desirable. A desirable feature for the data acquisition system is the capability of interfacing to 3rd-party equipment such as behavior, stimulus, and video systems. Please specify the number and features of these I/O ports.

The competing companies are required to present separate offers for the 16 and 32 channel configurations. Each offer should include all the hardware/software required for the system to work, including headstages, amplifiers, digitalization, and associated software for data analysis. Please include also the price of 8 channel headstages (if available). Please also include the prices of the most common electrode arrays (16 or 32 electrodes) that the companies are able to supply (if any).

Please include in a separate sheet the offer for a stimulation system in the available configurations. This stimulation unit should be easily integrated with the data acquisition setup. The stimulator should be able to deliver current to a specific channel while recording from the others.

Please include in a separate sheet the cost of a high-frame rate camera system that can be integrated within the neural data acquisition setup.

Please describe the details of installation/training by qualified personnel. Please include a description of post-sales support.