INDIAN INSTITUTE OF TECHNOLOGY, KANPUR

GT ROAD, KALYANPUR, KANPUR – 208016

UTTAR PRADESH, INDIA

Global Tender Enquiry Ref No.: IITK/31

TENDER REFERENCE NO.: IITK/BSBE/AP/2021-2022/NC-19

BID SUBMISSION END DATE- 18.01.2022

TENDER DOCUMENTS

For

"Purchase of Electrophysiology Set-up (Amplifier, Digitizer, Software, including accessories)"

Tender document

Department of Biological Sciences & Bioengineering
Indian Institute of Technology Kanpur
Kanpur (UP) 208016 India

Enquiry date: **December 21st, 2021**

Enquiry No: **IITK/BSBE/AP/2021-22/NC-19**

Sealed quotations are invited for **Electrophysiology Set-up (Amplifier, Digitizer, Software including accessories).** The detailed specification is described below.

Specifications of the Electrophysiology Set-up [Amplifier, Digitizer, Software including accessories]:

Amplifier:

- The amplifier should be Capacitor Feedback Patch Clamp Amplifier having lowest-noise single-channel recordings through innovative capacitor-feedback technology.
- The amplifier should have active headstage cooling to reduce electrical noise.
- **Applications:** Single-channel recording, whole-cell patch-clamp recording, extracellular recording, amperometry/voltammetry, bilayer recording, nanopore study.
- **Smart telegraph:** Gain, filter, capacitance
- **Seal test:** Should be available
- **Holding potential range:** -/+ 1000 mV
- **Holding current range:** -/+ 200 nA
- **Output gain (mV/pA):** 0.5 to 500
- **Modes:** I-Clamp, V-Clamp
- **Open circuit noise in 5kHz and 10 kHz:** 0.06 pA rms, (5 kHz), 0.13 pA rms (10 kHz)
- **True voltage clamp-resistor feedback:** True for cSEVC
- **Capacitance Compensation:** Should be available
- **RMS Noise -** 0.13 pA rms (10 kHz) should increase to 0.145 pA RMS when a patch-pipette holder is attached
- **Conventional Interface –** Should be available

Digitizer: Low Noise Data Acquisition System:

- System should have atleast one channel that can eliminate 50/60 Hz line-frequency noise and associated high frequency harmonics in less than one second and with a single click.
- Should digitize a wide range of input signals from -10 to +10 V.
- Should eliminate a maximum noise amplitude of up to 20 V, peak-to-peak.
- 8 analog input channels to digitize acquired signals up to 500 kHz independently.
- 8 analog output channels to send command voltage output independently.
- 8 digital out channels to control the periphery equipment used in sophisticated experiments.
- Independent analog-to-digital converters for each input channel ensure low crosstalk levels and high data acquisition rates.
- Should have USB 2.0 connection that allows operation on virtually any current PC computer running Microsoft Windows 7 or 10 (32-bit or 64-bit) Operating System, including laptops.
- 16-bit resolution data.
- All signal connectors on the front panel for ease of access and maintenance of the electrophysiology set-up.

Software:

- Membrane test should support monitoring cell health between sweeps during a recording.
- Membrane and seal tests should be combined into a single resizable window.
- Support for up to eight stimulus waveforms.
- Control of eight digital outputs.
- Control of split-clock sampling per epoch during a sweep.
- Leak subtraction should automatically save both raw and corrected traces.
- All protocol durations should be entered in time units.
- Should have the ability to automate the execution of protocols with sequencing keys, a variety of recording modes from Gap-Free to Episodic Waveform stimulation, online filtering and leak subtraction, as well as online statistics and support of automatic quick graphs.
- Software should provide a convenient way to produce background recordings. Should be able to monitor cells during inter-sweep periods, or create an overview of the entire day's activities including voice tags.
- The applications capable to acquire data concurrently on the same computer.
- Capable of analyzing, graphing, and formatting of all data.

- Should include an extensive array of filtering and fitting routines. Functionality should include I-V graphs, power spectrums, and special "linked data views" for threshold (Action Potential), template (minis), and single-channel modes of event detection and analysis.
- Should have comprehensive analysis tools including 24 cursor pairs for regions of interest search, graph plotting tools such as I-V plot and histogram.
- Warranty should be one year from the date of installation.

Quotations must be addressed to:

Dr. Appu Kumar Singh
Lab18
Department of Biological Sciences & Bioengineering
Indian Institute of Technology Kanpur
Kanpur 208 016, India
Email: singhappu@iitk.ac.in, nkhullar@iitk.ac.in

Terms and Conditions:

1. All equipment must be compatible with Indian electrical standards and codes. Engineering documentation on the physical sizes and weights of all major and minor components must be submitted.
2. IIT Kanpur is fully exempted from payment of GST on Imported Goods against our DSIR certificate.
3. IIT Kanpur is partially exempted from payment of Customs Duty (We will provide Custom Duty Exemption Certificate, CD applicable is 5.5%).
4. TENDER Specific Manufacturer Authorization Form from OEM Required.
5. The Institute reserves the right of accepting or rejecting any/all quotations without assigning any reason thereof.
6. All prices should be **F.O.R.**
7. Installation by OEM is preferred.

Appendix -1

TENDER ACCEPTANCE LETTER
(To be given on Company Letter Head)

Date: _____

To,

_____
_____
_____

Sub: Acceptance of Terms & Conditions of Tender.

Tender Reference No: _____

Name of Tender / Work: -

_____

Dear Sir,

1. I/ We have downloaded / obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely:
_____as per your advertisement, given in the above mentioned website(s).

2. I / We hereby certify that I / we have read the entire terms and conditions of the tender documents from Page No. _____ to _____ (including all documents like annexure(s), schedule(s), etc .,), which form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein.

3. The corrigendum(s) issued from time to time by your department/ organisation too have also been taken into consideration, while submitting this acceptance letter.

4. I / We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.

5. I / We do hereby declare that our Firm has not been blacklisted/ debarred/ terminated/ banned by any Govt. Department/Public sector undertaking.

6. I / We certify that all information furnished by our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organisation shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours Faithfully,
(Signature of the Bidder, with Official Seal)

Appendix - 2

Declaration for Local Content

(To be given on Company Letter Head - For tender value below Rs.10 Crores)
(To be given by Statutory Auditor/Cost Auditor/Cost Accountant/CA for tender value above Rs.10 Crores)

Date:
_____

To,
The Director,
Indian Institute of Technology Kanpur,
GT Road, Kalyanpur, Kanpur -208016

Sub: Declaration of Local content

Tender Reference No: _____

Name of Tender / Work: -
_____

1. Country of Origin of Goods being offered: _____
2. We hereby declare that items offered has ____% local content.

"Local Content" means the amount of value added in India which shall, be the total value of the item being offered minus the value of the imported content in the item (including all customs duties) as a proportion of the total value, in percent.

*"*False declaration will be in breach of Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law."*

Yours Faithfully,
(Signature of the Bidder, with Official Seal)