

Open Tender Notification for the procurement of “Inverted Motorized Fluorescence Microscope for Live Cell Imaging” at the Indian Institute of Science, Bangalore

(Last date of submission of tenders: 25 October, 2021)

Date: 30.08.2021

Dear Sir/Madam:

Please send your quotation valid for 90 days for the supply of equipment described below. Your quotation should clearly indicate the terms and conditions of the quotations, delivery, delivery schedule, entry tax, payment terms, warranty coverage etc. The tender should be submitted in two separate sealed envelopes – one containing the “Technical bid” and other containing the “Commercial bid”, both of which should be duly signed and must reach the undersigned on or before 17:00 hours 25 October, 2021.

The Dean
Division of Biological Sciences
Biological Sciences Building
Indian Institute of Science
Bangalore-560012
Karnataka, India

Inverted Motorized Fluorescence Microscope for Live Cell Imaging

A. Microscope body

1. Inverted motorized microscope with scanning capability in X, Y, and Z axis, built-in Double deck system and automated axial drift correction system (hardware based)
2. XY motorized stage with multiple holders to adapt slides, Petri dish with glass bottom cover slips, multi well plates, Flasks etc.
3. Dedicated vibration free external TFT/LCD touch screen capable of controlling all motorized functions of microscope.
4. Motorized Ergonomic Stand with inbuilt Z-focus drive with minimum step resolution of 50 nm or better.
5. IR based Laser/LED focus drift control module for long term in-focus time-lapse imaging
6. The frame should support future upgrades such as confocal, spinning disk & TIRF system.

7. Bright LED transmitted Illumination with intensity control through touch panel and imaging software
8. Motorized Condenser: Universal (suitable for all Microscopy Techniques) 6-7 position or more. Attachments, analysers, sliders, light rings, condenser and filters and polarizers to support bright Field, DIC, phase contrast and fluorescence microscopy and Koehler illumination for all objectives. It should have phase rings for 10X, 40X and 100X phase applications
9. Six positions motorized revolving nosepiece to accommodate objectives of different magnifications.
10. Tilttable binocular head with 10X F.O.V 22 or better eye pieces-2 nos.
11. High performance, Objectives suitable for Brightfield/Phase Contrast Fluorescence Observation
 - a) 10X Plan Apochromat N.A. 0.30 Ph1 or better
 - b) 40X Plan Apochromat N.A 0.6 Ph2 ELWD or better
 - c) 100X Plan Apochromat oil N.A 1.4 Ph3 or better.
12. Tilttable binotube, three position prisms for (i) 100% observation, (ii) up to 50% shared camera port-eyepiece simultaneous viewing, and (iii) 100% camera viewing.
13. Compact on-stage Incubator that works at 37 °C with complete temperature, humidity and CO₂ gas flow to maintain 5% CO₂ should also be provided as standard. Should also be included with suitable holders for 35 mm petri dish, 60 mm petri dish, 96 well plate holders too.
14. Motorized filter turret with at least 7 or higher filter position.
15. Stable long-lasting LED/ solid state fluorescence light source with a guaranteed lifetime of minimum 20,000 Hrs with Fluorescence excitation capability for the dyes like DAPI, FITC, mCherry and Far Red /Cy5. The LED light source should be completely controlled by the imaging software with an ability to control/select the desired LED lines and attenuation for fast sequential imaging. Fluorescence filter sets for UV/DAPI, GFP/FITC, mCherry and FM 1-43 and FM 4-64 dyes to be quoted (low bandpass). 3-4 empty cubes to be included. White light LED light source will be preferred.
15. All the cabling and controls required to integrate all the parts and operate from the controlling computer to be quoted.

B. Detector

Scientific grade CMOS camera with at least 85% or above quantum efficiency and with 6.5 µm pixel size with a maximum resolution of 2048 X 2048 pixels or better. The camera must

have USB 3.0 PCI express board interface and also should have a bit depth of 16 bits, at least 40 FPS at full resolution, cooling 10 °C at 25 °C ambient temperature or with equivalent technology. C-mount adapter with larger FOV for sCMOS camera. The camera should be controlled by the same imaging software for fast multidimensional imaging applications.

C. System control and application software

Software for fully automated acquisition and the ability to control all parts of the integrated system comprising the microscope body, LED module, and sCMOS Camera. The imaging software should have the modules for 6D imaging, modular multi-dimensional imaging programming suites such as graphical experiment manager, JOBS or journals or similar modules, time lapse recording functions, video recording functions, automated multi-channel fluorescence capturing & merging, fluorescence unmixing, co-localization, wide-field real time 2D and 3D deconvolution feature, automated image stitching Interactive measurements, offline ratio analysis, cell confluency checker and high dynamic range imaging etc. Additional offline analysis licence will be required.

D. Computer Workstation

1. Workstation (2x) offline and online specification:

Processor : Intel Xeon W-2123, 3.6GHz 4C CPU 8.25MB, 2666 MHz , Chipset : Intel C422 ,
HDD : 4 TB (2TB x2)., Optical Drive : 9.5mm slim DVD, Memory : 48 GB (DDR4 SDRAM (2666MHz, ECC, Registered), I/O Slot : IEEE1394 board on PCIe slot, RS232C PCIe board (recommended StarTech Make PEX1394B3), Graphics : NVIDIA Quadro P620 2 GB, Storage : Two internal 2.4"/3.5: bays, Two external 5.25" bays slimline optical bay, Expansion : 2 PCIe x16, 1PCIex8,2PCIex4,2M.2, FrontPorts:1 Mic/Headphone combo jack, 4 USB 3.1 (1 charging), 2 USB 3.1 Type-C, Rear Ports :6 USB 3.1Gen1;2RJ-45(1GbE);1lineout;1 linein;1 PS/2 mouse port; 1 PS/2 keyboard port; 1 serial port (optional), Optional Ports : Thunderbolt3, Operating System : Windows 10 Pro- 64 Bits (English edition)(Intel Xeon4Core System), USB Key board, USB Mouse. 30" inch Monitor or 24" inch monitor (2).

2. 5KVA online UPS, 25-30 minutes back up, 1 Phase in - 1 phase out with 26 AH x 16 Nos. SFF batteries interlinks & Battery Rack.

E) Training and Warranty

1. Training and Warranty: On-site installation and technical training; 3-year complete system warranty + additional 2-year AMC.

F) Accessories

1. **Safety:** Dust covers and all necessary accessories for the safety and protection of the microscope and their dependent parts.
2. All necessary accessories and control boxes, cords, clamps, cables, required to install, integrate, and operate the individual components listed above under sections A, B, C, D and E.
3. Binocular inverted microscope for cell culture with Phase Contrast system; LED illumination; Objectives-3, 10X/0.2 PLAN PH1 ,20X/0.3 PLAN PH1 and 40X/0.5 PLAN PH2 ELWD or better; two eyepieces, 10X/20; Long working distance Condenser with BF PH1, PH2.

The above-mentioned technical specifications are highly desirable. However, the Institute reserves the right to go for lower specifications taking into considerations its financial constraints and technical preferences.

Terms and Conditions:

1. The quotations should be submitted in two bids system; i.e., Technical bid, and Commercial bid.
 - a. The technical bid must include all details of technical specifications of the instrument along with commercial terms and conditions masking only the price component. Bill of materials, brochures, technical datasheets, and any other document may be enclosed to help the evaluation of the technical bid. Please also include warranty terms and any other information on upgradation terms in the technical bid.
 - b. The commercial bid must include the price of the instrument in Indian/Foreign currency indicating break up of:
 - I. For goods:
 - i. Installation, commissioning and training charges, including any incidental expenses, if any.
 - ii. Agency commission charges, if any.
 - iii. Provide certificates for country origin of manufacturing for each line item
 - II. Price of every line item in the commercial bid should be quoted along with the total quoted price for the instrument to be operational (fixed and ready to use) in our facility.

- c. Both the Technical and Commercial bid should be put in separate sealed envelopes, and put together in another cover stating, “Inverted Motorized Fluorescence Microscope for Live Cell Imaging” and should reach us on or before 17:00 hours 30-September-2021.
2. The vendor should have a good track record of having previously supplied Inverted Motorized Fluorescence Microscope for Live Cell Imaging in India or abroad (please furnish details about the installation location(s) and publication in SCI indexed journal(s)).
 3. The vendor should have qualified technical service personnel based in Bangalore capable of servicing the equipment.
 4. Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor.
 5. The quotations should be on Freight on Road (FOR)-IISc Bangalore basis in INR only.
 6. The lead time for the delivery of the equipment should not be more than three months from the date of receipt of purchase order.
 7. The validity period of the quotation should be 90 days.
 8. Import code of the items should be indicated.
 9. If the goods are found to be defective, they have to be replaced or rectified at the cost of the supplier within 30 days from the date of receipt of written communication from us. If there is any delay in replacement or rectification, the warranty period should be correspondingly extended.
 10. The purchaser reserves the right to accept or reject any bid and to annul the bidding process and reject all bids at any time period to award of construct without thereby incurring any liability of the affected bidder or bidders.
 11. The bidder has to follow the Government of India guidelines mention in the OM No. P-45021/2/2017-PP (BE-II) attached.