

**Open Tender Notification for the procurement of “Fluorescence Microscope with Spinning Disk Confocal and Total Internal Reflection Fluorescence Modules” at the Indian Institute of Science, Bangalore**  
**(Last date of submission of tenders: 1-March-2018)**

14.02.2018

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 1-March-2018.

**The Chair,**  
**Centre for BioSystems Science and Engineering,**  
**3rd Floor, Biological Sciences Building,**  
**Indian Institute of Science, Bangalore 560012, Karnataka, India.**

**Fluorescence Microscope with Spinning Disk Confocal and Total Internal Reflection Fluorescence Modules**

**Specifications:**

**A. Microscope body**

1. Inverted microscope with autoscanning and autofocusing
2. Double-deck motorized frame with motorized X, Y and Z
3. Z focus in 25 nm steps or lower
4. 6D imaging-capable i.e. X, Y, Z,  $\lambda$ , time lapse and multi point
5. Objectives: U Plan Super Apochromat objective 10X, U Plan semi apochromat objective 60X oil, Plan Super apochromat objective 100X oil, U Apochromat high NA objective for TIRF microscopy 100X/150X oil.
6. Motorized condenser with DIC attachment
7. Tilttable eyepiece tube and eyepieces

8. Transmitted illumination source: Halogen lamp or LED for brightfield microscopy
9. Epi-fluorescence illumination source: High power LED or Xenon arc lamp
10. Fluorescence filter cubes with narrow band excitation, bandpass barrier filters, dichroic beamsplitters for the following excitation/emission: DAPI/Hoechst, FITC/GFP, TRITC/Rhodamine, Texas Red/RFP, CY5, along with an empty mirror unit
11. Motorized epi-filter turret
12. Adapter for 35-mm dishes, multi-well dishes and slides
13. Active live incubation system with control for temperature, CO<sub>2</sub> and humidity
14. Integrated vibration isolation table
15. Completely isolated from the controlling computer
16. All the cabling and controls required to integrate all the parts and operate from the controlling computer

#### **B. Laser illumination and combiner**

1. At least 100mW solid state laser lines with wavelengths 405, 488, 561 and 640nm
2. Fully controllable laser intensity
3. Compatible for illumination with either the Spinning Disk Confocal Module or the TIRF module at any given time i.e. laser combiner with at least 2 fibers output
4. All the cabling and controls required to integrate all the parts and operate from the controlling computer

#### **C. Detector**

1. Back-illuminated EMCCD camera
2. 16x16 $\mu$ m pixel size, 512x512 active pixels, image area of 8.2x8.2mm, active area pixel well depth of 180,000 e<sup>-</sup>, max readout rate of 17 MHz, full frame rate of 56 fps, readout noise <1 with EM gain, maximum QE >95%, TE cooling to -100°C
3. Real-time super-resolution functionality via specialized software solution
4. C-mount adapter
5. All the cabling and controls required to integrate, align and operate from the controlling computer

#### **D. Spinning Disk Confocal Module**

1. Microlens-enhanced Nipkow Spinning Disk with maximum speed of 5000 or 10000 rpm, 50 $\mu$ m pinholes

2. Filter wheel with individual bandpass emission filters and quad-band emission filters for 405/488/561/640 nm excitation
3. Dichroics for 405/488/561/640 nm excitation
4. All the cabling and controls required to integrate, align and operate from the controlling computer and the microscope system described above

#### **E. Total Internal Reflection Fluorescence (TIRF) Module**

1. Motorized TIRF module with multi-wavelength TIRF capability, with TIRF tuning for all wavelengths
2. Individual bandpass emission filters and quad-band emission filters for 405/488/561/640 nm excitation
3. All the cabling and controls required to integrate, align and operate from the controlling computer and the microscope system described above

#### **F. System control and application software**

1. Software for fully automated acquisition and device control
2. Ability to control all parts of the integrated system comprising the microscope body, laser combiner, spinning disk confocal module, TIRF module and EMCCD detector
3. Post-acquisition image processing capability

#### **G. Computer Workstation**

1. Minimum specifications – octa core processor, 32 GB RAM; 2 TB HDD, 0.5 TB SSD; 64 bit OS; high resolution 24 inch display; 4GB GPU card
2. 5kVA UPS for all components of the microscope and controlling computer

#### **H. Training, Warranty and AMC**

1. On-site installation and training
2. 5 years complete system warranty

The above-mentioned technical specifications are highly desirable. However, lower technical specifications may be considered if the above-mentioned specifications are found to be unsuitable in financial terms. 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. Price (CIF, Bangalore). Applicable Custom Duty will be borne by the Institute.
      - ii. Installation, commissioning and training charges, including any incidental expenses, if any
      - iii. Agency commission charges, if any
    - II. A final line in the commercial bid should state 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 “Quotation for Fluorescence Microscope with Spinning Disk Confocal and Total Internal Reflection Fluorescence Modules” and should reach us on or before 1-March-2018
2. The vendor should have a good track record of having previously supplied Spinning Disk Confocal microscope in India or abroad (please furnish details)
  3. The vendor should have qualified technical service personnel based in Bangalore capable of servicing the equipment
  4. The payment will be through a letter of credit
  5. The lead time for the delivery of the equipment should not be more than 3 months from the date of receipt of purchase order or 2 months from the date of receipt of Letter of Credit details (whichever is earlier)
  6. The validity period of the quotation should be 90 days
  7. Kindly indicate the import code of the items
  8. If the goods are found to be defective, they have to be replaced or rectified at the cost of the supplier within 15 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

9. 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