

INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE
2A & 2B Raja S.C.Mullick Road Jadavpur, Kolkata 700032

Tender Notice No.: BC/DKS/DBT/01/2015/219, dated: 12.02.2015

Sub: *öImaging System for Cell and Tissue Mechanicsö (ISCTM)*

Sealed tender in two bids system (**Technical Bid & Financial bid**) is invited from bonafide, resourceful and eligible manufacturers/exclusive distributors for supply and installation of **State of Art *öImaging System for Cell and Tissue Mechanicsö (ISCTM)*** with necessary accessories.

Part I (Technical Bid) of the tender should contain technical details and commercial terms and conditions and Part II (Price Bid) should indicate group-wise price as mentioned in the Technical Bid where applicable. The Technical Bid and Price bid are to be submitted in two separately sealed envelopes distinctly marked accordingly and both to be put inside another envelope, which should be sealed and super scribed with tender notice no. and due date. The bidders may submit bids duly signed in their own letterheads. Complete tender bids should reach the office of the **Department of Biological Chemistry, Indian Association for the Cultivation of Science, 2A & 2B Raja S. C. Mullick Road, Jadavpur, Kolkata 700032** or on before the scheduled date & time specified below.

Tender Notice Number	BC/DKS/DBT/01/2015/219
dated:	12.02.2015
Date and time of Pre-bid meeting	23.2.2015 at 2.30 pm in room #66 IACS main building
Last date and time of submitting tender	16.3.2015 at 3.00 p.m.
Date and time of opening tender	16.3.2015 at 3.30 p.m.
Place of Opening Tender	at JC Bose Meeting Room
Contact	bcdks @iacs.res.in

The technical bids will be opened first to evaluate the technical specifications of the equipment thereafter, the Price bids of only technically qualified bidders will be opened. The date of opening the Price Bids will be intimated to the short-listed bidders at their contact addresses. The rest of the bids will be rejected.

A). TECHNICAL BID:

“Technical Specifications: *öImaging System for Cell and Tissue Mechanicsö (ISCTM)*

1/8	Fully Motorized Inverted Fluorescence Research Microscope
	1a. Motorized Inverted microscope for Bright field, DIC phase contrast and fluorescence observations. 1b. High resolution semi-apo/plan-fluor (except for 20X) objectives with DIC prism set for all DIC objectives.10x NA 0.3 (DIC); 20X (phase); 40X NA 0.6 (DIC); 60X 1.35 NA, (DIC); 100x NA 1.4,(DIC), Long Working distance is preferable for 60x. (100x . Optional) 1c. Motorized Z-focus drive with minimum z-step resolution of 25 nm or better. 1d. Intermediate magnification changer 1.5X or more (optional).

	<p>1e. 6-8 position motorized Fluorescence filter wheel with shutter & 6 position motorized nosepiece with DIC /Polarizer lot. The Magnification change should be automatically recognized by the software.</p> <p>1f. 12V 100W Halogen lamp illumination for transmitted light with built in filters.</p> <p>1g. 130 watt or more, intensity tunable fluorescence illumination by Hg/metal halide lamp with lamp of life minimum 2000Hrs with heat filter.</p> <p>1h. Fluorescence filters for UV, Blue, Green excitation ranges, all the filters should be band pass. Apart from these 3 filter sets <i>one long pass emission filter</i> for Alexa-488/ GFP and <i>two empty mirror mount</i> should also be provided separately</p> <p>1j. Automated and Motorized long working distance condenser for Phase and DIC. All</p>
	<p>the positioning of the prisms, analyzer and polarizer should be automated according to the objective. Phase Contrast rings PH1, PH2 and PH3 should be provided</p> <p>1k. Motorized scanning stage for XY-positioning (compatible with Multipoint Imaging); Microtiter plate holder for 35 mm Dish well plate and glass slides*.</p> <p>1l. Metallic stage heating and cooling system should be provided for 4 deg C to 100 deg C heating</p> <p>1m. Automatic real-time drift compensator using long wavelength (>750 nm) laser or LED.</p> <p>1n. Possibility of mounting a polarizer of appropriate size (preferably one inch) in the fluorescence lamp path of the microscope.</p>
2/8	System control and imaging software
	<p>Software from the vendor should be capable of controlling Motorized functions of microscope, capable of 6D (x,y,z,t,λ, multi point) Image acquisition with both the camera (mentioned below) & image processing like tracking ,segmentation, de-convolution, spectral un-mixing etc. Third party software compatibility: Microscope should be preferably programmable with third party software, a list of compatible third party software should be provided. Preference will be given to software like LabVier/Matlab/Micro-Manager etc</p>
3/8	Computer
	<p>Compatible with the camera mentioned below like, SSD CPU Intel Xeon E5-1620, 32GB RAM, SSD capacity-256 GB, 1TB hard disk etc. For detail, the camera manufacturer should be consulted.</p>
4/8	Online UPS
	<p>Vendor should arrange for the supply of suitable 3-5-KVA Online UPS with at least 30 minutes backup</p>
5/8	ACCESSORIES
	<p>a) Microscope cover</p> <p>b) LASER 488 nm (100 mWatt, TEM00 mode)</p> <p>c) microscope scale for calibrating the pixel size</p> <p>d) Lens cleaning paper books</p> <p>e) Objective Oil + c mount</p> <p>f) Image splitter for fluorescence anisotropy imaging . (Optional)</p> <p>g) Two polarizes of appropriate size (mentioned in 1n.)</p> <p>h) Dichroic for 488 nm laser</p> <p>i) One spare bulb each for fluorescence (130 watt, Hg/metal halide) and DIC (12V 100W Halogen) (Optional)</p>
6/8	Camera (should be provided with all accessories like cables and cards etc)
	Camera1: Cooled color CCD camera (5 Mpix or more, from microscope manufacturing

	company with USB based Interface) (Optional) Camera2: sCMOS camera, matching the technical spec provided below**
7/8	Future upgradation
	Possibility of onsite up gradation to spinning disk microscopy. Projected cost, with three (365nm, 488 and 560nm) lasers and the Yokogawa disk in next 2 year from the date of installation of microscope should be mentioned.
8/8	Port and microscope configuration
	Microscope should have separate port for Camera, Laser input port with Dichroic, APD/PMT, Eye Piece, Fluorescence Lamp. An optical diagram should be supplied for connecting all the items mentioned above. There should be no inbuilt lens in the path of Laser. The preference will be given to design where all the components mentioned above can be connected to microscope simultaneously. In addition 1) Laser should be on upper Deck 2)Fluorescence lamp should be on lower deck.

***Tech. specification** for XY-positioning stage (mentioned above in **1k**)

Incremental movement:	0.1µm or better
Repeatability:	0.5µm (encoded) or better
Speed:	25mm/Sec.
Travel Range	110 mm x 50 mm or more

**** Tech. specification for sCMOS camera**

Quantum efficiency	Over 60 % for (450- 600 nm)
Imaging device	Scientific CMOS Sensor
Pixel size	7 µm×7 µm or less
Effective area	13 mm×13 mm or more.
Full well capacity	30 000 electrons or more
Cooling temperature	-30 °C (Peltier Based)
External trigger mode	Edge, Level, Synchronous readout, Start trigger, Global reset and edge
Trigger delay function	0 µs to 10 s in 10 µs steps
Binning and Sub-array	Possibility of 2×2, 4×4 or higher binning and of sub-array acquisition
Dark current	0.006 electrons/pixel/s or less
Trigger output	3 programmable timing outputs Global exposure timing and Trigger ready output
Readout noise	Standard scan (at 100 frames/s, typ.):1.6 electrons rms or less Slow scan (at 30 frames/s, typ.): 1.4 electrons rms or less
Readout speed	30 frames/s (Full resolution, with USB 3.0 interface) Possibility of 100 frames/s with additional software: optional
Exposure time	Internal trigger mode: 1 ms to 10 s (at full resolution) Internal trigger mode with sub-array readout: 38.96 µs to 10 s
Interface	USB 3.0

Software interface	PC-based package included DCAM-SDK,
A/D converter and Lens mount	16 bit output, and C-mount
Power supply	AC100 V to AC240 V, 50 Hz/60 Hz

Important notes:

- i) Vendor should quote rates involved, if any, for the Optional Items/services mentioned separately.
- ii) Bidder providing misleading or wrong information will be disqualified
- iii) All technical claims of the Bidder should be supported by product catalogue, public website of the manufacture.
- iv) The Indian Agents desiring to quote on behalf of their foreign principals must have valid registration with the Central Purchase Organization (eg. DGS&D) as provided in Rule 143 of general financial rules, 2005

B). FINANCIAL BID:

The financial bid should be super scribed as “**Finance Bid**” on the outer cover of the envelope.

1. Price Bid: The financial bid indicating (item-wise) price for the item(s) mentioned in the technical bid should be kept in a separate sealed envelope duly superscribed as "PRICE BID" on the outer cover of the envelope as already detailed above. The price bids of only technically qualified bidders will be opened and they will be intimated the date and time of opening of price bids at their email id-(s). Rest of the bids will stand rejected.

2. Price: Price to be quoted both on FOB and CIF basis for foreign currency or in Indian currency.

Name of the particular port from where our authorized forwarder will lift the consignment must be mentioned clearly with FOB price.

3. Bid Security (EMD): An Account Payee Demand Draft for Rs. 1,65,000/- (Rupees one lac sixty five thousand only) drawn in favor of "Indian Association for the Cultivation of Science" payable at Kolkata is to be furnished by the bidders, as Bid Security money or Earnest Money Deposit (EMD) with the tender.

4. The Demand Draft for the Bid-Security money should have at least 45 (forty five) days validity period after the opening of the Bids.

5. In case of non-award of the work the Bid Security money would be returned to the unsuccessful bidders. Bid security money to the successful bidder will be refunded on receipt of the Performance security money.

6. Performance Security:

An Account Payee Demand Draft for an amount of 10% of the order value drawn in favor of "Indian Association for the Cultivation of Science" payable at Kolkata is to be furnished by the successful bidder as Performance security. Performance security money would be released by IACS after a period of 60 days from the date of completion of all contractual obligations of the supplier including warranty obligations. Bid security money will be refunded to successful bidder on receipt of the performance security money.

(C) General Instructions:

1. Incomplete & conditional tenders and tenders received after the due date will be summarily rejected without assigning any reasons thereof.

2. *Imaging System for Cell and Tissue Mechanics* (ISCTM) should clearly be written on the envelope.

3. At any time prior to the bid due date, IACS may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder during pre-bid meeting, modify the bidding documents. The amendment(s) will be notified on the Institute website only. Prospective bidders are advised to occasionally visit the website (www.iacs.res.in/tender) for any amendment.

4. Payment Terms: Through letter of Credit; 90% to be released on shipment and balance 10% against successful installation & commissioning subject to submission of performance guarantee.

5. Warranty: Equipment should be offered with standard one year warranty followed by Annual Maintenance Contract (AMC) for a total (warranty + 4 years AMC) duration of 5 year. The vendor should quote the charges for AMC separately. Taxes as applicable will be deducted at the time of payment of AMC amount.

6. Installation/Demonstration /Application Training at site: Free of cost by the supplier within 6 months of arrival.

7. User list: The supplier should provide a list of current users (with contact no, Email address etc) for the quoted item in India.

8. Service facility: Supplier should mention their details of service setup and Manpower in Kolkata who are responsible for after sales support. Response time should be within 24 hours.

9. The tender submitted shall remain valid at least for three months from the date of opening the tender. Validity beyond three months from the date of opening of the tender shall be by mutual consent

10. The tender should accompany a compliance chart. A technical compliance chart should also be provided in the following format:

A compliance chart of Serial Number under the TECHNICAL BID Specification should be provided

11. The rate should be inclusive of all taxes, transportation etc. Nothing extra will be paid in addition to the quoted rate. The taxes, etc. should be shown separately in the Price Bid.

12. The model number, make, and a printed literature of the product shall be submitted positively.

13. Proposed delivery schedule should be mentioned clearly.

14. Manufacturers/exclusive distributors/vendors should have history of supplying this type of instrument to this or other Scientific Organization.

15. Authorized Dealership Certificate is must in case of principal manufacturing company is not quoting directly.

16. Guarantee certificate, users manuals etc. are to be handed over to the user after successful commissioning of the system.

17. Incomplete tenders will be summarily rejected.

18. For any clarification regarding technical specifications, etc. please send your queries to "**Dr. Deepak Kumar Sinha: bcdks@iacs.res.in**"

19. In the event of date being declared a closed holiday for purchaser's office, the due date for submission of bids and opening of technical bids will be the following working day at the appointed time.

20. Please note that IACS will not provide any accommodation or expenses to any of the bidders for attending opening of technical bid/price bid

21. Acceptance of Tender: IACS authority does not bind itself to accept the lowest tender and reserves the right to reject any or all the tenders received without assigning any reason thereof.

REGISTRAR