



V.Sathyanarayanan
Senior Manager (Project Purchase)

Ref: CHE/BASA/054/2017
Date: 20th Feb, 2018

Open Tender for supply of "**CONFOCAL MICROSCOPE** "

Tender No: CHE/BASA/054/2017

Due Date: 16.03.2018, 2:30pm

Technical Bid opening on 16.03.2018 at 3.30pm

Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, tenders are invited for the supply of "**CONFOCAL MICROSCOPE**. (CHE/BASA/054/2017)" conforming to the specifications given in Annexure.

Instructions to the Bidder

i Preparation of Bids: - The tenders should be submitted under two-bid system (i.e.) Technical bid and Financial bid.

ii. Delivery of the tender: - The tender shall be sent to the below-mentioned address either by post or by courier so as to reach the following address before the due date and time specified in the Schedule: **Senior Manager, Project Purchase, 2nd floor, IC & SR Building, I.I.T. Madras -600 036.**

iii. Opening of the tender: - The offer/Bids will be opened by a committee duly constituted for this purpose. The technical bids will be opened first and it will be examined by a technical committee which will decide the suitability of the bid as per our specifications and requirements. The bidders will be invited for opening of Technical bids. In respect of opening of financial bid, those bidders who are technically qualified only will be called for.

iv. **Prices:** - The price should be quoted in nett per unit (after breakup) and must include all packing and delivery *charges* to various Departments/Centres/Institutions. The offer/bid should be exclusive of taxes and duties. The percentage of tax & duties should be clearly indicated separately. IIT Madras is eligible for concessional GST and relevant certificate will be issued.

In case of Imports, the price should be quoted without custom duty. I.I.T. Madras is exempted from levy of IGST on Imports and eligible for concessional custom duty. In case of import supply, the price should be quoted on **EX-WORXS** and **CIP** basis indicating the mode of shipment.

v **Agency Commission:** - Agency commission, if any, will be paid to the Indian agents in Rupees on receipt of the equipment and after satisfactory installation. Agency Commission will not be paid in foreign currency under any circumstances. The details should be shown in Tender even in the case of 'Nil' commission. The tenderer should indicate the percentage of agency commission to be paid to the Indian agent. The foreign Principal should indicate about the percentage of payment and it should be included in the originally quoted basic price, if any.

vi **Terms of Delivery** - The item should be supplied to our various Departments/Institutions as per Purchase Order. In case of import supply, the item should be delivered at the *cost* of the supplier to our Institution. The Installation/Commissioning should be completed as specified in our important conditions.

vii **Technical Bid Opening:** The technical bid will be opened on **16.03.2018** between 3.30 pm to 4.00 pm In Department of Chemical Engineering ,IIT Madras and the financial bids of those tenders who are technically qualified will be opened at a later date under intimation to them.

viii. **IIT Madras reserves the full right to accept / reject any tender at any stage without assigning any reason.**

Yours sincerely,


वि. सत्यनारायणन
V. SATHYANARAYANAN
वरिष्ठ प्रबन्धक (परियोजना क्रय)
SENIOR MANAGER (PROJECT PURCHASE)
आईसी एवं एसआर केन्द्र / Centre for IC & SR
आईआईटी मद्रास/I.I.T. MADRAS-600036

Senior Manager (Project Purchase)
IC&SR, I.I.T. Madras

SCHEDULE

Important Conditions of the tender

1. The due date for the submission of the tender is **16.03.2018, 2:30pm**. The offers / bids should be submitted in two bids system (i.e.) Technical bid and Financial bid. The Technical bid should consist of all technical details / specifications only. The Financial bid should indicate item-wise price for each item and it should contain all Commercial Terms and Conditions including Taxes, transportation, packing & forwarding, installation, guarantee, payment terms, pricing terms etc. The Technical bid and Financial bid should be put in separate covers and sealed. Both the sealed covers should be put in a bigger cover. The Tender for supply of "**CONFOCAL MICROSCOPE** Tender No: CHE/BASA/054/2017" should be written on the left side of the Outer bigger cover and sealed.

2.EMD: The EMD in the form of account payee DD for 2% value of the item in favor of Registrar IIT Madras Which should be enclosed in the cover containing financial Bid. Any offer not accompanied with the EMD shall be rejected summarily as non-responsive. The EMD of the unsuccessful bidders shall be returned within 30 days of the end of the bid validity period. The same shall be forfeited, if the tenderers withdraw their offer after the opening during the bid validity period. The Institute shall not be liable for payment of any interest on EMD.

EMD is exempted for Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) or registered with the Central Purchase Organisation or with IITMadras as on the date of submission of bids..

3. Performance Security:- The successful bidder should submit Performance Security for an amount of 5% of the value of the contract/supply within 21 days from the date of issue of work/purchase order. The Performance Security should be furnished in the form of an Account Payee DD / FD Receipt from the commercial bank (or) Bank Guarantee from any nationalized bank in India.

Performance Security in the form of Bank Guarantee:- In case the successful bidder wishes to submit Performance Security in the form of Bank Guarantee, the Bank Guarantee should be routed through the Beneficiary Bank to the end user bank. Otherwise, the Indian Agent of the foreign vendor has to submit a Bank Guarantee from a Nationalized Bank of India.

The Bank Guarantee should remain valid for a period of sixty days beyond the date of completion of all contractual obligations of the supplier including the warranty obligations.

4. Indian agent:- If an Indian agent is involved, the following documents must be enclosed: Foreign principal's proforma invoice indicating the commission payable to the Indian Agent and nature of after-sales service to be rendered by the Indian Agent.

Copy of the agency agreement with the foreign principal and the precise relationship between them and their mutual interest in the business.

The enlistment of the Indian agent with Director General of Supplies & Disposals under the Compulsory Registration Scheme of Ministry of Finance.

5.The offer/bids should be sent only for a machine that is available in the market and supplied to a number of customers. A list of customers in India and abroad with details must accompany the quotations. Quotations for a prototype machine will not be accepted.

6.**Original catalogue** (not any photocopy) of the quoted model duly signed by the principals must accompany the quotation in the Technical bid. No prices should ever be included in the Technical bid.

7.Documentary proof for the claimed position and repetition accuracies must be obtained from the principals and submitted along with the relevant pages of the standards.

8.Compliance or Confirmation report with reference to the specifications and other terms & conditions should also be obtained from the principal.

9.Validity: Validity of Quotation not less than 90 days from the due date of tender.

10.Delivery Schedule:- The tenderer should indicate clearly the time required for delivery of the item. In case there is any deviation in the delivery schedule, liquidated damages clause will be enforced or penalty for the delayed supply period will be levied.

Normally the delivery should be in 8 weeks from date of PO. If there is delay, the penalty will be @1 % per week of delay subject to a max of 10% of the value of purchase order and if the delay is more than 10 weeks, the PO would be cancelled and liquidated damages will be enforced.

11.Risk Purchase Clause:- In the event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from other sources on the total risk of the supplier under risk purchase clause.

12.Payment:- No Advance payment will be made for Indigenous purchase. However 90% Payment against Delivery and 10% after installation are agreed to wherever the installation is involved. In case of import supplies the payment will be made only through 100% Letter of Credit i.e. (90% payment will be released against shipping documents and 10% after successful installation wherever the installation is being done).

13.Advance Payment:- No advance payment is generally admissible. In case of specific percentage of advance payment is required, the Foreign Vendor has to submit a Bank Guarantee equal to the amount of advance payment and it should be routed through the Beneficiary Bank to the end user Bank. Otherwise, the Indian Agent of the foreign vendor has to submit a Bank Guarantee through a Nationalized Bank of India.

14.On-site Installation: - The equipment or machinery has to be installed or commissioned by the successful bidder within 15 to 20 days from the date of receipt of the item at site of IIT Madras.

15.Warranty/Guarantee: - The offer should clearly specify the warranty or guarantee period for the machinery/equipment. The warranty should be for three years from the date of commissioning of the equipment.

16.Late offer: - The offers received after the due date and time will not be considered. The Institute shall not be responsible for the late receipt of Tender on account of Postal, Courier or any other delay.

17.Acceptance and Rejection: - I.I.T. Madras has the right to accept the whole or any part of the Tender or portion of the quantity offered or reject it in full without assigning any reason.

18.Do not quote the optional items or additional items unless otherwise mentioned in the Tender documents / Specifications.

19.Disputes and Jurisdiction: -

Settlement of Disputes: Any dispute, controversy or claim arising out of or in connection with this PO including any question regarding its existence, validity, breach or termination, shall in the first instance be attempted to be resolved amicably by both the Parties. If attempts for such amicable resolution fails or no decision is reached within 30 days whichever is earlier, then such disputes shall be settled by arbitration in accordance with the Arbitration and Conciliation Act, 1996. Unless the Parties agree on a sole arbitrator, within 30 days from the receipt of a written request by one Party from the other Party to so agree, the arbitral panel shall comprise of three arbitrators. In that event, the supplier will nominate one arbitrator and the Project Coordinator of IITM shall nominate one arbitrator. The Dean IC&SR will nominate the Presiding Arbitrator of the arbitral tribunal. The arbitration proceedings shall be carried out in English language. The cost of arbitration and fees of the arbitrator(s) shall be shared equally by the Parties. The seat of arbitration shall be at IC&SR IIT Madras, Chennai..

- a. **The Applicable Law:** This Purchase Order shall be construed, interpreted and governed by the Laws of India, Court at Chennai shall have exclusive jurisdiction subject to the arbitration clause.
- b. Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Chennai in Tamil Nadu.

20. All Amendments, time extension, clarifications etc., will be uploaded on the website only. Bidders should regularly visit the above website to keep themselves updated. No extension in the bid due date/ time shall be considered on account of delay in receipt of any document by mail.

Acknowledgement:- It is hereby acknowledged that the tenderer has gone through all the conditions mentioned above and agrees to abide by them.

SIGNATURE OF TENDERER

ALONG WITH SEAL OF THE

COMPANY WITH DATE

Annexure
SPECIFICATION

Sl.No	Spectral Confocal Laser Scanning Microscope- Specification
01	<p>Fully Motorized inverted microscope for Bright field & Fluorescence imaging with a binocular tube.</p> <p>Motorized Z-focus drive with minimum z-step resolution of 50 nm or better with dedicated TFT/LCD screen for the control of motorized functions of microscope. 6 position motorized FL filter wheel & 6 position motorized nosepiece and motorized condenser. Motorised Side port for Adaptation of camera.</p> <p>LED illumination for transmitted light, Metal Halidelamp illumination for Fluorescence with lamp of life minimum 2000 Hrs.</p>
02	XY Motorized scanning stage with tile scan and mark & find capability from the same manufacturer of microscope.
03	Galvo or Piezo stage for Fast XYZ sectioning
04	Confocal Grade Objectives Plan Apochromat 10x/0.4 (or better), 20x/0.75 (or better), and Plan Apochromat 40x/.85 & 63x/1.4 oil (or better) λ blue corrected with Automated DIC Fully motorized.
05	Pixel shift corrected fluorescent filters for DAPI, Hoechst, GFP, FITC, TRITC & Texas red
06	Scan head should have at least 4 independent filter-free inbuilt spectral detectors with independent voltage and offset control. Out of the 4 detectors, at least one should be high sensitive built in GaAsP detector or equivalent with more than 40% QE. All the detectors should be built in Spectral type. The spectral dispersion of the emission light should be based on either reflection grating with 32 array detector or with prism based dispersion with high efficient spectral detectors.
07	POL anisotropy accessories to perform quantitative anisotropy measurements should be quoted.
08	All the FL detectors of the scan head should be filter free with freely selectable emission band width detection capability to suit to the emission spectra of the dyes
09	Maximum scan resolution should be at least 6Kx6K for all channels and higher will be preferred in spectral mode. It should preferably work in both Linear Scanning Mode and Galvo mode
10	The scan field diagonal should be at least 20 mm F.O.V. Higher FOV is preferred
11	Scan zoom range 0.8:48x or more and should be adjustable in steps of 0.1
12	System should be capable of acquiring minimum 6-10 frames per second @ 512x512 pixel resolution in spectral mode (without line skipping and interpolation) and should increase with ROI and zoom selection. Digitization capability of 8/12/16 bit should be available with the system.
13	Transmitted light PMT detector for bright field and DIC imaging.
14	<p>6 Laser lines- Solid state or Gas Lasers 440/458/488 and 514nm, 561nm & HeNe 633nm/640nm. All the lasers should have minimum power of 10mW. If it's multi Arcombination, it should be minimum combined power of 30mW.</p> <p>UV 405 of 50 mW power should also be quoted.</p> <p>The entire lasers should be switched on/off through single switching power button and should be provided in a closed box with laser combining facility. All the visible lasers should include AOTF control also.</p>

15	Scanner unit should have laser ports for UV, vis and IR laser future upgradation. The scanner should be ready with IR optical correction for upgradation.
16	Software should be capable of controlling Motorized functions of microscope, scan head control, laser control including AOTF and Image acquisition & processing. Software module or facility to image extended dynamic range while acquiring like HDR/BrightR/or equivalent with GaAsP/ HyD/APD or equivalent detectors. Saving of all system parameters with the image for repeatable/ reproducible imaging. Advanced & Dedicated confocal 3D visualization software module to immediately open the multidimensional images like multichannel Z stack with time series. It should be able to play the time series volume as 3D time series movie. It should allow to record the 3D animation with various adjustment like pseudo coloring, intensity, rotation, clipping, 3D enhancement etc., Various 3D projection modes: Transparent, Maximum Intensity, and Depth coding, Stereo images (cyan / magenta, horizontal and vertical shutter, quad-based)3D image reconstruction from a Z-stack image series basic software. It should be possible to upgrade all the software's periodically without additional costs
17	Advanced FRET & FRAP software
18	Factory tested advanced PC 10-Core Xeon E5-2650 V3 processor or above, 32 GB or above RAM NVIDIA Quadro K2200 4GB graphic board, 256 GB SATA SSD , 512 GB SATA SSD, 3 TByte SATA hard disc drive with 30 inch monitor. The computer system should be tested and approved by the manufacturer. Anti Vibration Table & computer table should be supplied along with confocal system from the factory.
19	Manufacturer's Warranty of 3 years should be part of the quotation for all the parts including laser replacement.
20	Manufacturer-certified trainers to be made available for two state of the art two-day training post installation. In addition, certified trainers should provide additional 4 training sessions over two years period. As and when required, technical and application support should be made available at no additional cost during the warranty period. If qualified, 10% release of payment is subjected to the submission of BOTH "training certificate" as well as "installation certificate" signed by PI.
21	Cooled high sensitive 4.2 MP sCMOS camera with a quantum efficiency of at least 80% or higher, Frame rate upto 90fps or above at full frame, pixel size of 6.5µm size. It should be suited for very high speed fluorescence applications. Image capturing from the camera should be done through the Confocal software. Camera should be on stage peltier cooled. This should be quoted separately
22	High speed scanner for minimum 25fps @512x512 (without line skipping and interpolation) in Spectral mode should be quoted separately
23	<u>One high sensitive built in GaAsP detector or equivalent with more than 40% QE should be quoted separately.</u>
24	TCSPC based FCS module with specially cooled high sensitive detectors. This should be quoted separately. For FCS/FCCS dedicated Plan Apochromat 63x or 40x/1.2 W should be offered with the system. All laser lines for confocal imaging should be capable of working in FCS/FCCS mode. FCS/FCCS detection should be based on minimum two channel GaAsP or APD for cross correlation measurements in live cell and solution.
25	On-stage environment chamber (quote separately): Portable, on-stage environment chamber with separate controller, with feedback-

	regulation over temperature (room temperature to 40 deg), CO2 control (0 to 20% absolute), and relative humidity (0-100%). The control unit should have live-display of parameters read inside the on-stage chamber. The on-stage insert should be compatible with the dimensions of the automated XY-stage and exhibit no shake (sub-micron level) when the XY-stage moves with the on-stage chamber on top. Appropriate adapters must be provided where there is no direct fitting. Sample adapters for 35mm petridish, 60 mm petridish, 6-well plate, and lab-tek glass-bottom chambers must be provided. The softwares for the chamber and confocal unit should have integration.
26	<p>Quasi Super resolution Imaging (Hardware + Software based) should be quoted (optional)</p> <p>The system should be able to use in SR mode for better resolution and Confocal Mode for normal imaging. Lateral resolution of 140-160 nm or better and Axial resolution of at least 350-400 nm or better should be expected out of the system. It should be capable to take super resolution images while live imaging with spectral tuning flexibility. It should be able to perform Mark & Find or Tile Scan in Super Resolution mode</p>
27	<p>Heating Stage (optional accessory): A heating stage compatible with the confocal microscope that can be used in the temperature ranging from -150 to 400°C.</p>

Two-bid system should be followed. In the financial bid, include the cost of each component or accessory to the equipment separately.

Vendor must have installed at least 4 units in India.

List of vendors must be submitted along with the technical bid.