

KANNUR UNIVERSITY (PMU - D SECTION)

Tel: 04972715243

e-mail: registrar@kannuruniv.ac.in, sopmud@kannuruniv.ac.in

NOTICE INVITING E-TENDER

The Registrar, Kannur University invites e-tender(s) in **Two Bid System (Two cover)** for the **Supply, Installation, Testing and Commissioning of Table-top AFM/STM system for ambient operation with vibration isolation stage and advanced imaging options** at the Department of Physics, Swami Ananda Theertha Campus, Payyannur (under PM USHA scheme) from **original equipment manufacturers (OEMs) or authorized distributors/dealers** as per the technical specifications and schedule given below. The rate quoted should be inclusive of all taxes, installation charges and other charges. The Registrar, Kannur University reserves the right to accept or reject the tenders without assigning any reason thereof. The list of equipment/accessories proposed to be purchased, including its quantity and specifications are furnished in the schedule of items given below. Since this is an e-tender, only those bidders who have enrolled in the <http://etenders.kerala.gov.in> portal with their own Digital Signature Certificate (DSC) can participate in the tender. E-Tender document and other details can be obtained from the above e-portal.

TENDER SCHEDULE

Description of Work	Supply, Installation, Testing and Commissioning of Table-top AFM/STM System for Ambient Operation with Vibration Isolation Stage and Advanced Imaging Options
Tender I D	2025_KnrU_763269
Pre-bid meeting date, time and place	21.05.2025, 3 PM Kannur University Headquarters, Thavakkara, Civil Station P O, Kannur, Kerala - 670002
Start date and time for online submission of e - Tender	26.05.2025, 3.00 PM
Last date and time for online submission of e - Tender	17.06.2025, 11.00 AM
Date and time of tender opening	18.06.2025, 03.00 PM
Earnest Money Deposit (EMD)	₹ 80,000
Tender fee (Including GST)	₹ 14160 (₹ 12000 + ₹ 2160 GST)
Place of supply and installation	Department of Physics, Swami Ananda theertha Campus, Payyannur, Kannur, Kerala - 670327

For further details, logon to <http://etenders.kerala.gov.in>

SPECIFICATION OF THE EQUIPMENT

Sl No.	Name of the equipment	Required quantity
1	Table-top AFM/STM system for ambient operation with vibration isolation stage and advanced imaging options	1

SPECIFICATION	
AFM system	A multipurpose AFM system having capable of imaging both biological as well as material samples.
	The SPM/AFM must have a xyz tip-scanning configuration
	The AFM should include both top-view and side view optics for sample observation
	AFM system must be capable of scanning small, medium and large size samples without any modification to the scanner.
	Must include active vibration table and acoustic enclosure for noise cancellation.
Mode of Operation	<p>Following scanning modes must be included in the offer:</p> <ul style="list-style-type: none"> • Contact Mode • Tapping Mode • Lateral Force Microscopy • Phase Imaging • Force Modulation Microscopy • Lithography • Force Distance (F-D) Spectroscopy • Conductive AFM • Kelvin Probe Microscopy
Scanner	<ul style="list-style-type: none"> • Flexure-based XY scanner and decoupled piezo-based Z-scanner.; Piezo tube scanners are not acceptable; Open and Closed loop Z-control of the AFM scanner is a must. • The quoted scanner must have a XY axes scanning range $\geq 100 \mu\text{m}$, and Z axes scanning range $\geq 10 \mu\text{m}$ • The XY scanner must have drive resolution of 0.05 nm or better. • The Z scanner must have scan drive resolution of 0.005 nm or better. • Z-measurement noise level $\leq 0.035 \text{ nm}$ (RMS, dynamic mode in air) • Must have possibility to have an ample choice of detachable cantilever holders with kinematic mount to accommodate standard commercially available cantilevers with or without alignment grooves.
Sample Stage	<ul style="list-style-type: none"> • Manual xyz sample positioning with at least 20 mm x 20 mm .
Sample Size	System must accommodate sample sizes up to 100 mm diameter and 15mm or higher thickness.
System Optics	<ul style="list-style-type: none"> • AFM scanning cantilever/probe optical surface should be viewable on axis in real time via Direct Optical Video Access by CCD/CMOS. • The resolution of the optics must be $< 1.5 \mu\text{m}$ or better. • The AFM must include top-view optics with motorized focus & digital zoom. Systems having both top view and side view camera with motorized focus and digital zoom will be preferred.

	<ul style="list-style-type: none"> • The optics must have software-controlled white LED illumination. • The optics must include a 5-Megapixel or higher camera, and software to display and store the optical image from within the AFM software.
System Controller and software requirements	<ul style="list-style-type: none"> • All digital signal processing for maximum freedom of operations • Very sensitive 24 Bit ADC/DAC for Zoom-In and precise acquisition • 16 bit controllers are strictly not acceptable • Highest quality of analog signal handling for minimum electronic noise • 32Bit CPU and multitasking operating system for parallel operations • X/Y/Z-Axis Scan & Position Controller 3 x 24Bit DAC, 200kHz • X/Y/Z-Axis Position Measurement 3 x 24Bit ADC, 200kHz • Excitation & Modulation Outputs 4 x 16Bit DAC, 20MHz • Analog signal input bandwidth DC to 5MHz • Main Input Signal capturing 2 x 16Bit ADC, 20MHz, 2 x 24Bit ADC, 200kHz • Additional User Signal Outputs 3 x 24Bit DAC, 200kHz • Additional User Signal Inputs 3 x 24Bit ADC, 200kHz • Additional Monitor Signal Outputs 2 x 24Bit ADC, 200kHz • Digital Synchronization 2 x Digital Out, 2 x Digital In, 2 x I2C Bus • FPGA Module & Embedded Processor ALTERA FPGA, 32Bit NIOS-CPU, 80MHz • 256MB RAM, Multitasking OS • Communication USB 2.0 Hi-Speed to PC • System synchronization 10MHz internal quarts or external clock • Power 90-240 V AC, 70W, 50/60H • The data acquisition system must be capable of recording individual image sizes of Minimum 4000 to 8000 pixels or greater. All the above 16 channels should acquire higher pixels. • The software automatically recognizes the hardware and configures with the software appropriately. • Minimum 2 inbuilt Lock-in amplifier must be included in AFM configuration.
Detector	High-speed, low-noise 4-quadrant photodiode detector; Must have SLD laser for avoiding interference from sample surface reflection; Laser on/off through software.
Image Analysis software	<ul style="list-style-type: none"> • Image Display: Dual Imaging Window for Scan and Retrace image. • Sample Navigator: Assistant for localized zooming w.r.t. a large area scan. • Analysis Functions: Line (Single line profile) Extraction, Localized Zooming, Roughness Display, Measure length & angles on the Measure length & angles on the images, 2D Fast Fourier, Transformation etc. • Image Processing Tool: Spatial and Fourier Low-Pass Filtering, Background Subtraction, Zooming, Contrast, Slope Correction etc.
Computer	<ul style="list-style-type: none"> • Latest branded PC with windows 10 operating system, 1TB hard disk, 8 GB ram, dual 23 inch monitor and licensed software for the operation of the instrument. • Software must be a single package for all modes and attachments with no need for additional software programs. • Software package must include both image acquisition and data processing software in one package with no need for different programs operation.
Power Supply	The system should be compatible with the Indian power supply e.g., 90–240 V AC, 70 W, 50/60Hz

Installation and Training	<ul style="list-style-type: none"> The system must be installed, and demonstrated by engineers of the manufacturing company on our site free of charge. Comprehensive on-site training required to our satisfaction
Warranty and Support	<ul style="list-style-type: none"> Three year comprehensive warranty must be included along with the bid/offer Warranty should start from date of installation.

Terms and Conditions

1. Tender fee and EMD should be remitted through online (SBI MOPS), but **18% GST amount on tender fee should be remitted to GST department directly by the bidder** and should upload the receipt in the E procurement portal.

Sl. No	Equipment	Tender Fee in Rupees (₹) (Inclusive of 18% GST)			EMD (₹)
		Excluding GST	GST (18 %)	Total (₹)	
1	Table-top AFM/STM System for Ambient Operation with Vibration Isolation Stage and Advanced Imaging Options	12000	2160	14160	80000

2. Custom Clearance of the consignment including all the stages of custom clearance will be under the purview of supplier.

3. The tender should be submitted in two cover system (Technical bid & Financial bid). The bidders shall keep their rate firm for a period of **120 days**.

4. The successful bidder shall, before signing the agreement and within the period specified in the letter of acceptance of his tender, deposit a sum equivalent to **5 % of the value of the contract** by way of Demand Draft drawn in favour of the Finance Officer, Kannur University payable at SBI Kannur Branch or Kannur Branch of other Nationalized or Scheduled bank, **as performance security** for the satisfactory fulfilment of the contract.

5. The bidder should be registered company/firm. Certificate of incorporation/Company registration certificate/Memorandum and Articles of Associations/Valid GST registration certificate/Valid Income tax registration certificate/Valid Service tax registration certificate should produce along with the tender.

6. All bid/tender documents are to be submitted online only and in the designated cover(s)/envelope(s) on the website. Tenders/bids shall be accepted only through online mode on the website and no manual submission of the same shall be entertained.

7. Profile of Bidder as per Annexure 1 shall be provided.

8. The bidder should have the responsibility to attend the first level service if any complaint report. The bidder should provide minimum one preventive maintenance during warranty period. Relevant documents or undertaking signed by the personnel with address and contact person's name, phone no, and URL of complaint logging website to be submitted in case, if the bidder doesn't have their own service centre and the bidder authorize another service centre/service engineers for attending service.

9. The earnest money deposit (EMD) of the unsuccessful bidders will be returned through ONLINE NEFT Transaction and the EMD of successful bidders will be discharged upon the bidder executing the contract and furnishing the security deposit that will have to be deposited for the satisfactory fulfilment of the contract.

10. All the MSMEs with Udyog Aadhar Registration or any other body specified by the Ministry of Micro, Small and Medium Enterprises working within the state of Kerala will be exempted from the payment of Tender Fee and EMD. Under MSME category, only Manufactures for

Goods and Service Providers for Services are eligible for EMD/Tender fee exemption.

11. Forfeiture of EMD:

- (i) If any bidder withdraws from his tender before the expiry of the bid validity period specified or
- (ii) in case after being successful bidder, he/firm fails to sign the contract, and to furnish the performance security.

12. The bid shall contain detailed technical specifications, Brochures and pamphlets of all items quoted.

13. All the claimed specifications (make, model, year of manufacture, warranty etc.) should be mentioned in the Brochure or Catalogue of the equipment.

14. All charges, taxes, duties and levies should be clearly indicated and the rate tendered should be inclusive of all taxes and other charges.

15. The installation, commissioning and the initial operation will be the responsibility of the supplier.

16. In case of under performance during the warranty period, the item should be replaced and the period of warranty will recommence from the date of replacement.

17. The payment will be made after completion of supply, installation and commissioning.

18. Bidders shall invariably specify in their tenders the delivery conditions including the time required for the supply of articles tendered for.

19. Bidders shall clearly specify whether the goods are offered from indigenous sources, from imported stocks in India, or from foreign sources to be imported under a license. University reserves the right to reject offers for import of goods if the import Trade Control Policy in force at the time of award of the contract prohibits or restricts such imports.

20. The final acceptance of the tenders rests entirely with the University who do not bind themselves to accept the lowest or any tender.

21. Communication of acceptance of the tender normally constitutes a concluded contract. Nevertheless, the successful bidder shall also execute an agreement for the due fulfilment of the contract within the period to be specified in the letter of acceptance. In cases where a successful bidder, after having made partial supplies fails to fulfil the contracts in full, all or any of the materials not supplied may at the discretion of the Registrar, be purchased by means of another tender/quotation or by negotiation or from the next higher bidder who had offered to supply already and the loss, if any, caused to the University shall thereby together with such sums as may be fixed by the University towards damages be recovered from the defaulting bidder.

22. Even in cases where no alternate purchases are arranged for the materials not supplied, the proportionate portion of the security deposit based on the cost of the materials not supplied at the rate shown in the tender of the defaulter shall be forfeited and the balance alone shall be refunded.

23. All payments to the contractors will be made by the University in due course on submission of the invoice, by way of cheques or drafts.

24. The bidder shall undertake to supply materials according to the standard sample and /or specifications.

25. No representation for enhancement of rates once accepted will be considered.

26. Bidders should be prepared to accept orders subject to the penalty clause for forfeiture of security in the event of default in supplies or failure to supply within the stipulated period.

27. The prices quoted should be inclusive of all taxes, duties, cess etc., which are or may become payable by the contractor under existing or future laws or rules of the country of origin/supply or delivery during the course of execution of the contract.

28. Special conditions, if any, of the bidders attached with the tenders will not be applicable to the contract unless they are expressly accepted in writing by the purchaser.

29. The bidder should upload along with his tender an agreement executed and signed in Kerala Stamp Paper of value Rs.200/- purchased in Kerala State. Tenders without the agreement in stamped paper will be rejected outright. But in deserving cases where agreement has not been received, the Registrar may exercise his discretion and call upon such bidder to execute the agreement within a period of ten days from the date of issue of such intimation, if the Registrar is satisfied that the omission to forward the agreement along with the tender was due to causes beyond the control of the bidder and was not due to any negligence on his part. Agreement

received from a bidder after the above time limit will not be considered. [Format of agreement appended].

30. The bidder shall quote their rate in the standard BOQ provided indicating the break up details.

31. The purchaser reserves the option to give price preference to the offers from Public Sector units and or Small scale /Cottage Industries/Units over those from the other units in accordance with the policies of the Government from time to time.

32. The provisions of Kerala Stores Purchase Manual are applicable to this Tender and further proceedings.

33. The University reserves all rights to accept or reject any or all the tenders without assigning any reason whatsoever at its discretion.

34. The bids shall be opened online at Kannur University on the date mentioned in Invitation Bid. If the date fixed for opening happens to be a holiday/due to net failure, the tenders will be opened on the next working day, at the same time.

35. Prices shall be quoted in Indian currency only.

36. Bidders must not be blacklisted by any Government or Public Sector Undertaking.

DOCUMENTS TO BE SCANNED AND UPLOADED

1. Bidder Profile (as per format mentioned in Annexure 1)
2. Bid Particulars (as per format mentioned in Annexure 2)
3. Scanned copy of valid registration certificate (GST) & PAN Card
4. Scanned copy of Preliminary Agreement in Stamp Paper of Rs.200/- (as per format mentioned in Annexure 3)
5. Scanned copy of relevant Brochure of the equipment including make & model and copy of its certifications like ISO certification.
6. Copy of GST payment receipt (18% of tender fee) of tender fee (MSME firms should upload MSME certificate/ UDYAM registration certificates).
7. Valid authorization certificate from OEM (in case of resellers)



Prof. (Dr.) Joby K Jose
Registrar



ANNEXURE 1
BIDDER PROFILE

Sl.No.	Particulars	
Details of bidder (Firm/Company)		
1	Name	
2	address	
3	Telephone & Fax	
4	Email & website	
Details of Authorized Person		
5	Name	
6	Address	
7	Telephone & Email	
Information about the company		
8	Status of Company (Public Ltd. / Pvt. Ltd)	
9	Details of Registration of Firm (Provide Ref.)	
10	Number of Professionals	
11	Location and address of offices (in India & overseas)	
12	Service Tax Registration Number	
13	Income Tax Registration Number(PAN)	
14	GST Registration Number	

Signature of the Bidder

ANNEXURE 2
TECHNICAL BID (BID PARTICULARS)

1. Tender Number :-----
2. Name of the Bidder :-----
3. Full Address of the Bidder :-----
4. Name of the actual signatory of the
product(s) offered :-----
5. Bidder's proposal number and date :-----
6. Name & Address of the officer to
whom all references shall be made
regarding the Tender :-----

Telephone :-----

Fax :-----

E-mail :-----

Bidder Signature Name -----

Designation -----

Company -----

Date -----

ANNEXURE – 3

Preliminary Agreement

Articles of agreement executed on this the day of
..... between the Registrar, Kannur University (hereinafter referred to as “the University”) of the one part and Shri.....
..... (H.E. name and address of the tenderer)(hereinafter referred to as “the bounden”) of the other part.

Whereas in response to the Notification No..... dated the bounden has submitted to the University a tender for the
specification therein subject to the terms and conditions contained in the said tender;

Whereas the bounden has also deposited with the University a sum of Rs.....as earnest money for execution of an agreement undertaking the due fulfilment of the contract in case his tender is accepted by the University.

NOW THESE PRESENTS WITNESS and it is hereby mutually agreed as follows:

1. In case the tender submitted by the bounden is accepted by the University and the contract for is awarded to the bounden, the bounden shall within.....days of acceptance of his tender execute an agreement with the University incorporating all the terms and conditions under which the University accepts his tender.
2. In case the bounden fails to execute the agreement as aforesaid incorporating the terms and conditions governing the contract, the University shall have power and authority to recover from the bounden any loss or damage caused to the University by such breach as may be determined by the University by appropriating the earnest money deposited by the bounden if the earnest money is found to be inadequate the deficit amount may be recovered from the bounden his properties movable and immovable in the manner hereinafter contained.
3. All sums found due to the University under or by virtue of this agreement shall be recoverable from the bounden and his properties movable and immovable under the provisions of the Revenue Recovery Act for the time being in force as though such sums are arrears of land revenue and in such other manner as the University may deem fit.

In witness where of Shri (name and designation) for and on behalf of the University and Shri.

..... Bounden have hereunto set their hands the day and year shown against their respective signatures.

Signed by Shri. (date)

In the presence of witnesses:

1.
2.

Validity unknown

Digitally signed by SAJJEEVAN M
Date: 2025.05.14 17:02:11 IST
Location: Kerala-K

