



**SOPHISTICATED ANALYTICAL INSTRUMENT FACILITY (SAIF)  
INDIAN INSTITUTE OF TECHNOLOGY MADRAS  
CHENNAI – 600036, INDIA  
Telephone: +91-44-2257 4936, 4943**

**Tender No: SAIF/002/2015-16/NMR**

**Date: 16<sup>th</sup> March 2016**

**Due Date: 15<sup>th</sup> April 2016, 03.30pm (IST)**

Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, offers are invited for the supply of “**500 MHz NMR spectrometer with Microprobe and Solid State Accessories**” 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 addresses either by post or by courier so as to reach our office before the due date and time specified in our Schedule. Please note that E-mail tenders will not be accepted  
**THE HEAD  
SOPHISTICATED ANALYTICAL INSTRUMENT FACILITY (SAIF)  
I.I.T. MADRAS,  
CHENNAI – 600 036, INDIA**
- (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, which will be paid by the purchaser as applicable. However the percentage of tax & duties should be clearly indicated.

The price should be quoted without custom duty and excise duty, since I.I.T. Madras is exempt from payment of excise duty, and the custom duty will be paid at concessional rate against duty exemption certificate.

In case of import supply, the price should be quoted on EX-WORKS 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 explicitly 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) IIT Madras reserves the full right to accept / reject any tender at stage without assigning any reason.

Yours sincerely,

Sd/-

**Dr. S. S. Bhattacharya**  
**Head, SAIF, IIT Madras**

## SCHEDULE

### Important Conditions of the tender

1. The due date for the submission of the tender is **15<sup>th</sup> April 2016, 03.30pm (IST)**
2. The offers / bids should be submitted in two bids systems (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 Open Tender for supply of **“500 MHz NMR spectrometer with Microprobe and Solid State Accessories”** should be written on the left side of the Outer bigger cover and sealed.
3. **EMD:** - EMD should be at 2% (two percent) of the tender value quoted by the bidder. The EMD should be included in the Financial bid which will not be opened for Technical evaluation. Enclosing the EMD in the Technical bid will automatically disqualify the tenderer. EMD should be in the form of DD in favour of “The Registrar, Indian Institute of Technology Madras” and payable at Chennai. The tender without EMD would be considered as UNRESPONSIVE and REJECTED. Photo/FAX copies of the Demand Draft/Banker’s pay orders will not be accepted. No interest will be paid for the EMD and the EMD (Bid Security) will be refunded to the successful bidder on receipt of Performance Security.
4. **Performance Security:-** The successful bidder should submit Performance Security for an amount of 5% of the value of the contract/supply. The Performance Security may be furnished in the form of an Account Payee DD, FD Receipt from the commercial bank, Bank Guarantee from any nationalized bank of India will be an acceptable.

**Only after submission of Performance Security, Purchase Order/Work Order will be released / L.C will be opened.**

**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.

5. 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.
6. 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.
7. 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.
8. 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.
9. Compliance or Confirmation report with reference to the specifications and other terms & conditions should also be obtained from the principal.
10. **Validity:** Validity of Quotation not less than 90 days from the due date of tender.
11. **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.
12. **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.
13. **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).

14. **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.
15. **On-site Installation:** - The equipment or machinery has to be installed or commissioned by the successful bidder within 30 days from the date of receipt of the item at site of IIT Madras.
16. **Warranty/Guarantee:** - The offer should clearly specify the warranty or guarantee period for the machinery/equipment. Any extended warranty offered for the same has to be mentioned separately. (for more details please refer our Technical Specifications).
17. **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.
18. **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.
19. **Do not quote the optional items or additional items unless otherwise mentioned in the Tender documents / Specifications.**
20. **Disputes and Jurisdiction:** - 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.
21. All Amendments, time extension, clarifications etc., will be uploaded on the website only and will not be published in newspapers. 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: Detailed Specifications

500 MHz state of the art FT NMR Spectrometer with Microprobe and Solid state accessories

Sl. No	Feature	Specifications
1.	<b>Magnet</b>	<p>11.74 Tesla actively shielded standard bore (54 mm) superconducting magnet with radial 5G line 0.6 meter and axial 5G line 1.2 meters;</p> <p>Liquid Helium hold time: 150 days or higher; built-in Cryo and RT shims; level meters for Liquid Helium and Liquid Nitrogen; Vibration damping accessory; Liquid Helium transfer line</p>
2.	<b>RF Console</b>	<p>Deuterium lock; Digital lock control unit and digital lock deceiver; Deuterium amplifier with integrated lock switch for automatic gradient shimming; Shim control boards with 36 orthogonal shim gradients or higher.</p> <p>Minimum two RF channel architecture with provision for Broad band frequency generation in all channels; Pulse generating System with very high precision; Timing resolution: 20 ns or better; Digital frequency synthesis; Composite pulse decoupling generator;</p> <p>Waveform generator for pulse shaping; phase resolution &lt; 0.01 degree; frequency resolution &lt; 0.005 Hz</p> <p>Two channel amplifier system for high performance liquids and for routine CP-MAS applications;</p> <p>High performance linear amplifiers:100 W/300W/500W; High-power linear broad-band amplifiers for Solid State measurements; Suitable Preamplifiers and band-pass filters;</p> <p>ATR transmitter/receiver system with high dynamic range;</p> <p>Field gradient unit for gradient spectroscopy, DOSY and gradient shimming with Z-Gradient amplifier and control units;</p> <p>Magnetic field gradient 30 Gauss/cm or better;</p> <p>High-quality water suppression;</p> <p>Dual channel ADC with at least 16 bit resolution;</p> <p>Digital quadrature detection; Ethernet based communication and control system for bi-directional connection to the host computer.</p>
3.	<b>Probes</b>	<ol style="list-style-type: none"> <li>1. <b>CP-MAS Probe:</b> 4mm, Broad Band probe; VT Range: -50 to +80°C or better; Zirconia rotors (4mm) with caps; Spinning speed: 15 kHz or better</li> <li>2. <b>Microprobe:</b> Z-gradient Probe (3mm or less; 30 Gauss/cm or better); Inverse probe with Automatic tuning and Matching; VT range: -50 to +80 °C or better; Temperature accuracy 0.1°C or better (Sensitivity, Resolution and 90° pulse width must be specified).</li> </ol>

4.	<b>Software</b>	Latest available software (Linux or Windows) for spectrometer control and data processing, Additional software licenses for data processing. Structure analysis software for Relaxation analysis (T1/T2 & T1ρ), DOSY, Solid state line shape analysis & Statistical analysis of metabonomics data.
5.	<b>Other Items</b>	<ol style="list-style-type: none"> <li>1. Compatible High performance online 10 kVA UPS with in-built isolation transformer and battery backup for 1-hour (at full load)</li> <li>2. Compatible Oil-free Scroll compressor with air-filter and dryer</li> <li>3. Additional CP/MAS sample rotor kit (50 Nos)</li> <li>4. NMR Tubes with cap (100 Nos)</li> <li>5. High-end Workstation with latest available processor, TFT monitor, Laser printer (600 X 600 DPI) etc.</li> </ol>
6.	<b>General Terms &amp; Conditions</b>	<ol style="list-style-type: none"> <li>1. Price for each item/accessory of the spectrometer should be quoted separately.</li> <li>2. Supply of standard reference and calibrating samples should be provided along with the spectrometer.</li> <li>3. One year standard warranty from the date of installation/acceptance, covering all the units/accessories of the spectrometer including the super conducting magnet.</li> <li>4. Additional comprehensive warranty for five years for all parts and peripherals.</li> <li>5. Accessories such as Compressor, dryer, UPS, etc may be supplied locally. Complete technical details along with manuals of items supplied locally or from an outsourced vendor, should be submitted along with the quotation.</li> <li>6. Liquid Helium required for installation and topping off the magnet should be provided by the vendor and should be included in the basic cost of spectrometer.</li> <li>7. Vendor should commit to supply liquid Helium on payment basis and keep the super conducting magnet active.</li> <li>8. In case of a magnet-quench during the installation or at subsequent times due to faulty design or any other technical failure, the necessary costs for recharging or replacing should be borne by the vendor.</li> <li>9. Software upgrades should be incorporated by the vendor as and when the new versions are released, at no additional cost.</li> <li>10. On-site training for operation and maintenance should be given during the installation.</li> <li>11. Intensive operational and maintenance training at the site of the principal manufacturer should be provided for two persons (1 for operation and 1 for maintenance).</li> <li>12. Periodical visit of application specialist for on-site training and implementation of latest NMR experiments, at least once in a year for five years after the initial warranty period.</li> <li>13. All manuals should be provided as hard as well as soft copies.</li> <li>14. The minimum power required for the operation of spectrometer with all the accessories must be specified in the quote.</li> <li>15. The vendor should attach a list of NMR systems sold in India</li> </ol>

Contact details for any technical clarifications/details:

Dr. C. Baby  
Technical Officer  
SAIF, IIT Madras  
Chennai, India  
Phone: +91-44-2257 4944  
Email: [cbaby@iitm.ac.in](mailto:cbaby@iitm.ac.in)