

DEPARTMENT OF CHEMISTRY  
INDIAN INSTITUTE OF TECHNOLOGY - DELHI  
HAUZ KHAS, NEW DELHI - 110016

Dated: 29<sup>th</sup> Aug 2011

**NOTICE INVITING QUOTATIONS**

**Sub: Purchase of Scanning Tunneling Microscope**

Sealed quotations in *separate envelops of technical and commercial bid* kept in a one sealed outer envelope are invited for purchase of an STM as per specifications given below. Your sealed quotation should reach latest by 5 PM on 6<sup>th</sup> Sept 2011 to **Dr Sameer Sapra, Department of Chemistry, Indian Institute of Technology – Delhi (IIT Delhi), Hauz Khas, New Delhi - 110016**. Your quotation should be superscribed “Purchase of STM due on 6<sup>th</sup> Sept 2011”.

**Specifications for the STM**

S.No.	Description	Qty
1.	<p>Scanning tunneling microscope</p> <p><u>Specifications:</u></p> <ul style="list-style-type: none"><li>• The STM should work under ambient conditions.</li><li>• Variable scan area with different scan ranges:<ul style="list-style-type: none"><li>- Maximum Scan Area: 2.5<math>\mu</math>m x 2.5<math>\mu</math>m (X/Y Res. &lt; 0.8nm)</li><li>- Minimum Scan Area: ~35<math>\text{Å}</math> - 55<math>\text{Å}</math> (to produce Atomic Resolution on HOPG)</li><li>- Tunneling Current range +5nA to -5nA in steps of 0.1nA</li><li>- Sample Bias Range: +10V to -10V in steps of ~5mV</li><li>- Sample Mounting support of 10mm dia</li></ul></li><li>• Imaging modes:<ul style="list-style-type: none"><li>- Constant height</li><li>- Constant current</li><li>- Dynamical Conductance Imaging</li></ul></li><li>• Spectroscopy Modes:<ul style="list-style-type: none"><li>- IV Spectroscopy in point mode, line mode and grid modes.</li><li>- IZ Spectroscopy</li></ul></li><li>• Slope compensation features both in hardware and software</li><li>• Essential Software features:<ul style="list-style-type: none"><li>- Dual image windows for scan and retrace display</li><li>- Export obtained images to standard image formats like ASCII, jpg, png etc.</li><li>- X/Y/Z Calibration utilities for the piezo-elements.</li><li>- 3D rendering of STM images</li></ul></li></ul>	01

	<ul style="list-style-type: none"> <li>- Spatial and Fourier image filtering tools like slope correction, Fourier Low Pass Filtering, background, subtraction etc.</li> <li>- Image analysis like line profile extraction, measurement of distances,</li> <li>• Toolkit (with tools for tip and sample changing, at least 10 spare sample mounting discs, conducting silver paste, tip wire cutters etc.)</li> <li>• The systems should have a clear instruction manual and 3-5 experiments for pedagogical purposes with samples.</li> <li>• Training to be provided to 1-2 personnel.</li> <li>• Giving a live demo before the customer will better convince us of the product.</li> <li>• Suitable Vibration Isolation Platform</li> </ul> <p><u>Mandatory Accessories:</u></p> <ul style="list-style-type: none"> <li>• Pt/Ir and Tungsten Tips (10 each) with 1m extra tungsten wire.</li> <li>• Reference Sample Kit (with at least 10 pre-mounted samples having, HOPG, Bismuth Telluride, 1T-Tantalum Disulphide and Gold sputtered on STM grade Mica substrates)</li> <li>• Tip Etching Tool (for preparation of tungsten tips by chemical etching process)</li> </ul>	
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### Terms & Conditions:

1. Please submit the TECHNICAL and FINANCIAL bids in separate sealed envelopes. Mark the two envelopes clearly as “Technical Bid” and “Financial Bid”. Both the sealed envelopes should be sent in a single sealed envelope, clearly marked as “Quotations for Purchase of STM due on 6<sup>th</sup> Sept 2011”. The quote should reach the following address on or before 6<sup>th</sup> Sept 2011, upto 5 PM.

Dr. Sameer Sapra  
Department of Chemistry  
Indian Institute of Technology Delhi (IIT Delhi)  
Hauz Khas, New Delhi-110016

2. Please quote prices at FOB/CIF New Delhi, inclusive of installation charges.
3. The quotations should be in Indian Rupees as well as international currency wherever possible and should be valid for at least three months.
4. Please attach all the technical literature and a list of similar installations done in India.
5. Standard warranty details should be provided.
6. Payment should be through irrevocable letter of credit.
7. If the quote is being submitted by the representative of the Principals/manufacture themselves, a valid Agency ship/Dealership Certificate

- authorizing the agent to quote to IIT Delhi on behalf of the Principals should be enclosed.
8. Complete set of manuals for the operation of equipment should be given.
  9. Clearly specify the installation requirements—such as space, power, frequency, environment (Temperature and humidity) etc.
  10. If the items quoted are proprietary in nature, please enclose proprietary certificate from the principals stating “certified that \_\_\_\_\_ is a proprietary item M/s. \_\_\_\_\_ and no other manufacturer makes these items.
  11. If the bidder is an Indian agent, the agency certificate should be enclosed.
  12. Please produce compliance certificate for the specification.
  13. Training should be provided free of cost.
  14. Delivery period should be specifically mentioned and should be as small as possible.
  15. The products will be used for educational purposes. Hence any applicable institutional discounts should be offered and stated.
  16. SALES TAX :This Institute is not exempted from the payment of Sales Tax/Service Tax/VAT. The rate (i.e. percentage of Sales Tax should be clearly indicated included or excluded) wherever chargeable.
  17. Institute reserves the right to accept or reject any or all the quotations without assigning reasons thereof.