

	<b>INDIAN INSTITUTE OF TECHNOLOGY MADRAS</b> <b>Chennai 600 036</b>  Telephone: (044) 2257 4764 E-mail: kgprad@iitm.ac.in	
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Dr. K. G. Pradeep  
Project Coordinator

Ref: MET/KGPR/3106/2019  
Dated: 26.08.2019

Limited Tender No: MET/KGPR/3106/2019

**Due Date: 16.09.2019, 4:00pm**

**Pre-Bid meeting: - Not required.**

**Technical Bid opening meeting on Due Date: 16.09.2019, 4:30pm**

Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, offers are invited for the supply of “**Correlative Microscopy**” conforming to the specifications given in **(Annexure-I)**:

**Instructions to the Bidder**

- I. **Preparation of Bids:** - The Limited 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 the following address before the due date and time specified in our Schedule:  
**Dr. K. G. Pradeep**  
**Dept. Metallurgical and Materials Engineering,**  
**IIT Madras**  
**Chennai - 600 036.**
- III. **Opening of the tender:** - The offer/Bids will be opened by a committee duly constituted for this purpose.

**Prices:** - The price should be quoted in net per unit (after breakup) and must include all packing and delivery charges to **Dept. Metallurgical and Materials Engineering.**

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 import supply, the price should be quoted without custom duty. IIT Madras is exempted from levy of IGST on Imports and eligible for concessional custom duty (not

exceeding 5%) and the price should be quoted on EX-WORKS and CIP basis indicating the mode of shipment.

- IV. **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 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.
- V. **Terms of Delivery:** - The item should be supplied to our Departments 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.
- VI. **Technical-cum-financial bid opening:** The bids will be opened on **16.09.2019, 4:30pm** at the Dept. Metallurgical and Materials Engineering, IIT Madras.
- VII. IIT Madras reserves the full right to accept / reject any tender at stage without assigning any reason.

Yours sincerely,

**Dr. K. G. Pradeep**  
**Dept. Metallurgical and Materials Engineering,**  
**IIT Madras**  
**Chennai - 600 036**

## SCHEDULE

### Important Conditions of the tender

1. The due date for the submission of the tender is **16.09.2019, 4:00pm**.  
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 Limited Tender for supply of “**Correlative Microscopy**” should be written on the left side of the cover.
2. 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.
3. Original catalogue (not any photocopy) of the quoted model duly signed by the principals must accompany the quotation in the Technical-cum-financial bid.
4. Compliance or Confirmation report with reference to the specifications and other terms & conditions should also be obtained from the principal.
5. **Validity:** Validity of Quotation not less than 60 days from the due date of tender.
6. **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.
7. **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.
8. **Payment:** -
  - i. 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).
  - ii. **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.

9. **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).
10. **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.
11. **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.
12. **Do not quote the optional items or additional items unless otherwise mentioned in the Tender documents / Specifications.**
13. **Disputes and Jurisdiction:** -
  - a. **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..
  - b. **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.
  - c. 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.
14. 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**

### Preparation platform for Correlative Microscopy analysis

Correlative microscopy involves analysing the same sample volume in different yet complementary microscopy methods in order to obtain information that are correlative of the microstructural features present towards comprehensive understanding of materials. The samples required for such correlative analysis need to be of hemispherical cross-section with a maximum diameter of 60-80 nm. Such samples can only be prepared by electropolishing followed by final shaping using Focussed Ion Beam of an initial wire (shaped sample) having square cross-section sectioned from the bulk sample of interest. The intended preparation platform should have the capability to deliver 250  $\mu\text{m}^2$  (square) cross-section wires of 20 mm uniform length from bulk samples with very high reproducibility. These wires should then be retained by the holder carrying the bulk sample so that they can further be thinned down to 1-2  $\mu\text{m}^2$  by gentle automatic polishing without damaging the wires. Hence, the holders required for all the operations need to be compatible with the entire preparation platform consisting of three major units namely, sample slicing unit, automatic polishing and integrated cleaning unit.

Below are the detailed specification requirements for each unit.

<b>Units</b>	<b>Requirements</b>
1. Sample slicing	<ul style="list-style-type: none"> <li>• Sample holding area 40 X 150 mm<sup>2</sup></li> <li>• Dimension of each slice after cut width – 250 <math>\mu\text{m}</math> length – 20 mm thickness - 250 <math>\mu\text{m}</math></li> <li>• Movable cutting table</li> <li>• Y Axis movement during slicing Min – 0.005 mm/s Max – 3 mm/s</li> <li>• Cut-off Wheel diameter &lt; 200 mm</li> <li>• Variable speed – 1000 to 3000 rpm</li> <li>• In built cooling unit</li> </ul> <p>*All necessary accessories to support the system should be quoted.</p>
2. Automatic Polishing Machine	<ul style="list-style-type: none"> <li>• Polishing area – diameter <math>\leq</math> 200 mm</li> <li>• Disc Speed – 50 to 600 rpm</li> <li>• Minimum force on sample - 5 N approx.</li> <li>• Safety cover over Preparation area</li> <li>• Integrated lubricant supply unit</li> <li>• Option for selecting manual and/or automatic polishing</li> </ul>

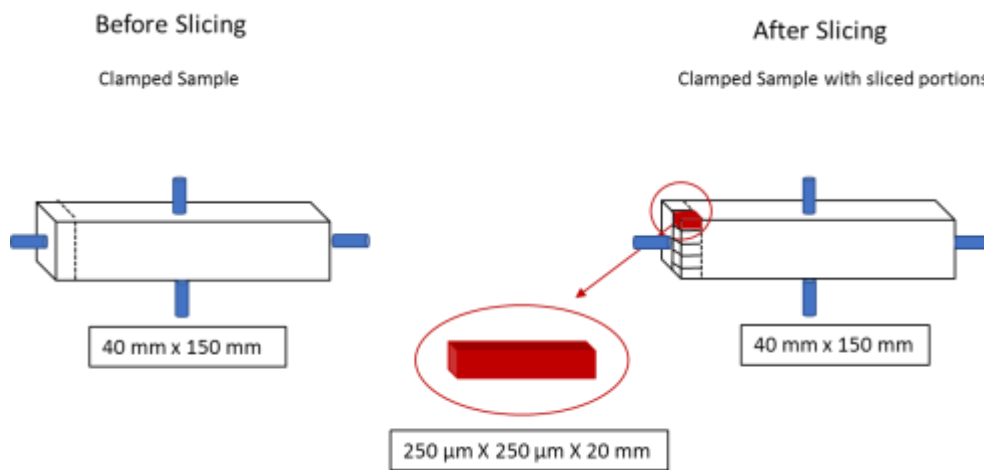
<p>3. Integrated sample Cleaning unit</p>	<ul style="list-style-type: none"> <li>• Automatic cleaning function for cleaning and drying of sample holding area.</li> <li>• Should facilitate easy interchange of samples between cleaning and polishing units.</li> </ul>
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Compressor and other accessories as required for normal operation should be included.

Appropriate sample holder capable of retaining the sliced sample should be provided which should be compatible with all the quoted units until the final dimensions of the sample are achieved. Below is a schematic that depicts the requirement of the correlative sample.

All units together should be able to be housed within an area of 250 X 250 cm<sup>2</sup> considering the limited availability of lab space.

Power Supply – 230 V/50 Hz



Schematic representing the requirement for the sample preparation

### **Terms and Conditions**

1. Prices must be quoted CIF Chennai.
2. Warranty must be for 1 year. The quotation should also include 2 year AMC.
3. Quotation must include installation and training charges for 2 people.
4. There must be local service agents in India.

### **Vendor Eligibility Criteria:**

1. The Vendor must be an OEM or authorised representative of an established OEM.
2. A list of installations in India of the models or equivalent models (individual units) being quoted, in the last 3 years should be provided along with contact details of the users.
3. If the different units are to be procured from different sources, the vendor interested should assume responsibility for the overall functionality of all units put-together and not individually.
4. In case, the model(s) quoted by more than one vendor is satisfying the above specifications, the vendors should arrange for the live-demonstration of the integrated quoted units at IIT Madras or in the nearby vicinity, if in case the facility of the quoted type(s) are not available at IIT Madras.
5. The final decision, if the above situation arises will be based on the performance of all the units put-together during live-demonstration.