Centre for
Nano-sciences & Nanotechnology,
University of Mumbai,
(CNNUM),

C/o UCC, Room 009,
Shankar Dayal Sharma Bhavan, Vidyanagari, Santacruz (E), Mumbai 400 098, India

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Tender Document

Fluorescence/Dic Microscope With 12.5m Cooled Digital Camera and Image Analysis Software

No.: CNNUM/Tender/06/2009

Date: 7th Jan, 2009
Part A - Terms and Conditions
Part B - Specifications

Price: Rs. 500/- (non refundable)

Important Dates:

Last date of Sale of Tender Document	28th January, 2009, 4.00 pm
Last Date of Receiving sealed Bids:	29th January, 2009, 1.00 pm
Date of Opening of Technical Bids if minimum three Vendors have participated:	30th January, 2009, 11.00 am
One extension of two weeks, if less than three bids received. Last date of the first extension	13th Feb, 2009, 3:00 pm
Second extension of two weeks, if less than three bids received in the first extension. Last date of the second extension	27th Feb, 2009, 3:00 pm

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Part A - Terms and Conditions

Centre for Nanosciences and Nanotechnology
University of Mumbai
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Sealed Tender bids for **Fluorescence/Dic Microscope With 12.5m Cooled Digital Camera and Image Analysis Software** for the Center for Nanosciences and Nanotechnology are invited for and on behalf of University of Mumbai by the Coordinator, CNNUM, so as reach in his office latest by 1.00 pm the 29th January, 2009 Mumbai.

Tender Document containing terms and conditions and technical specifications are available in the Office of the CNNUM, C/o UCC, Room 009, Shankar Dayal Sharma Bhavan, Vidyanagari, Santacruz (E), Mumbai 400 098, on all working days between 11.00 a.m. & 4.00 p.m. from 7th Jan, 2009 to 28th Jan 2009. Terms & conditions and technical specifications can also be downloaded from http://www.mu.ac.in. The tender bids duly complete in all respects, along with the necessary documents should be submitted to Prof. D. C. Kothari, Coordinator, latest by 1.00 p.m. on 29th Jan 2009.

The Technical Bids so received, shall be opened on 30th Jan, 2009, at 11.00 a.m. in the office of the CNNUM, University of Mumbai, Vidyanagari 400 098 in presence of the representatives of the Suppliers. The Financial bids of only qualified tenderers shall be opened. The date and time of opening the financial bids shall be announced on the website after scrutinizing the Technical bids. Right to reject any or all tenders, without assigning any reason thereof is reserved by the University of Mumbai.

Sd/-
Coordinator, CNNUM
University of Mumbai

Terms and Conditions of Supply:

1. The last date and time for the acceptance of the bids is **on 29th January 2009 at 1.00 p.m.**

2. Suppliers shall submit the following documents along with their quotations.
   (a) Income- Tax clearance certificate from the Income-Tax Officer concerned, certifying that the tenderer has cleared all the Income-Tax dues.
   (b) Suppliers should be either manufacturer or authorized dealer of the said equipment and should submit the proof for the same. Also, the suppliers should state whether they are a Proprietary Firm, Partnership Firm or a Private/Public Limited Company and furnish the proof of the same.
   (c) The names of the organizations and laboratories to which similar equipment have supplied.
   (d) Earnest Money Deposit in the form of a Demand Draft drawn in favour of **"Finance and Accounts officer, University of Mumbai"** on any Scheduled/ Nationalized Bank, payable at Mumbai. The amount of Earnest Money Deposit shall be Rs. 10,000/-
   (e) VAT Registration No.
   (f) Technical specifications offered by the Supplier.
   (g) Technical compliance table
   (h) Proprietary certificate, if any

3. The rates should be mentioned in the **Schedule** attached with the Tender Document. Each page of the tender shall be signed in full and stamped with the seal by the supplier. The supplier must clearly state in what capacity he or she is signing the =tender.

4. The supplier shall submit the tender in two envelopes. The first envelope (Technical Bid) shall contain all the documents referred to in **para two above** and sealed. The second envelope (Commercial Bid) shall contain the **Schedule,** in which the supplier shall register the rates of supply. The second envelope shall also, likewise, be sealed. Both the envelope then should be put together, and shall be sealed in an envelope, and shall prescribed time and date. The Technical Bid shall be opened first to ensure that supplier have submitted all the requisite documents. If the Technical Bids are not in order or are deficient in some respect, the commercial bids in respect of such tenders shall not be opened. The date and time of opening the Financial bids shall be announced immediately after opening all the Technical bids.

5. Tender bids not accompanied by the requisite amount of Earnest Money Deposit are liable to be rejected

6. The Earnest Money Deposit paid by the supplier shall be forfeited, if the supplier fails to pay the necessary security deposit in the event of his tender being accepted.

7. The amount of Security Deposit/Performance Guarantee shall be 5 % of the cost. In case of successful tenderer the amount of Earnest Money Deposit shall be converted in Security Deposit/Performance Guarantee. Security Deposit/Performance Guarantee shall be refunded after the warranty period is over. The Security Deposit/Performance Guarantee can be paid in the form of a Bank Guarantee from a scheduled bank.

8. Supplier should read carefully all the instructions and terms and conditions, etc before registering rates in prescribed schedule of the tender. Taxes and duties etc., should be shown separately.

9. The offers made by the suppliers shall be open for acceptance within 120 days after the last date of submission of tender.

10. **The Technical Documents shall be opened by The Coordinator in the** Centre for Nanosciences and Nanotechnology **at 11.00 a.m. on 30th January 2009,** for those bids for which minimum three Vendors have participated. The tenderers or their authorized representatives shall be allowed to be present at the time of opening of the tenders. Financial bids of only qualified tenderers shall be opened. The date and time of opening the financial bids shall be announced immediately after opening all the Technical bids.

11. In case of imported items/equipments, the rates should be quoted in the light of exemptions enjoyed by educational institutions. University is exempted from the payment of Octroi and the necessary certificate/form can be issued by the University. The customs duty applicable to the University of Mumbai is maximum 5% of the invoice.

12. Technical specifications of the instruments/equipments/articles are given in **Annexure** to these papers (Part B).

13. The delivery, installation & operational training of the instruments/equipment should be completed within 3 months from placing of the order, in case of the imported equipment and within 15 days if the instrument/equipment is made in India. No extension shall be granted to the contractors/suppliers for the period of delivery, under any circumstances.

14. If the supplier fails to deliver the article as per the delivery schedule, the University of Mumbai shall be free to procure the balance/undelivered supply, at the risk and cost of the supplier, from other such suppliers

15. The goods, articles, materials supplied by the supplier shall be accepted after inspection by an officer authorized by the competent authority. No articles/materials which do not conform to the specifications laid down in the terms and conditions or damaged in transit accepted

16. The bills of the suppliers shall be paid by the University after all the materials /articles/equipments have been received, inspected as above.

17. **Vendor must submit Compliance statement in tabular form comparing each specification of the quoted item with that given in the Tender Document part B. The Vendor also must supply a soft copy of the Table only Microsoft in word 2003 format.**

18. **If the equipment is imported and requires PC, printer other peripherals, they can be bought from India and should be of International brand such as HP. The monitor should LCD/TFT screen. The printer should be LaserJet printer. The processor should be Intel Core2 Duo. The amount quoted for the items bought in India, installation; servicing etc. can be in Indian Rupees and the imported items can be quoted in foreign currency.**

19. **The warranty period shall be for three years.**

20. **Furniture required should be supplied alongwith the equipment. It should be from Quality Laboratory Furniture Manufacturer such as Gordhandas Desai Pvt Ltd. or Kewaunee Labway India Pvt. Ltd. etc.**

21. **The equipment shall be installed in available laboratory space and shall be shifted after about ONE Year when the Centre's building will be ready for use. The re-installation of the equipment shall be done by the supplier at supplier's cost whenever requested by the University.**

22. As the suppliers shall be responsible for the supply and installation (wherever necessary) of equipment at Mumbai, the cost towards insurance until destination in the University, shall be borne by suppliers.

23. In the event of any breach of the terms and conditions of the supply, the University of Mumbai may terminate the contract placed with the supplier and forfeit the security deposit or the supplier.

24. **Proprietary certificate, if any, should be included in the technical bid.**

SCHEDULE TO TENDER

Note:

1. Tenderers are advised to read carefully the Terms and Conditions of supply and "the Instructions to the Tenderers" before recording the rates in this schedule.
2. No erasures or overwriting shall be allowed, unless they are authenticated under the full signature and the seal of the tenderer.
3. The Rates shall be FOR, at destinations/godowns/places indicated in the delivery

Item no	Description of goods with details of specifications	Number/ quantity	Price/Rate per Unit	Taxes	Duties	etc

Signature of the Tenderer
Seal of the Firm

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Part B – Specifications for **Fluorescence/Dic Microscope With 12.5m Cooled Digital Camera and Image Analysis Software**

Specifications for Fluorescence/Dic Microscope With 12.5m Cooled Digital Camera and Image Analysis Software

Microscope Stand:	Microscope stand for Biology and Medicine for transmitted Light 100W illumination. Light intensity LED indicator and light preset switch for better photography
Microscope Focussing:	3-step focus drive for coarse 25mm per coarse stroke, medium and fine focussing 1micron per fine stroke, focus torque adjustment and adjustable focus stop with focus knobs.
Objective nosepiece:	6-fold nosepiece
Transmitted light source:	Transmitted light halogen lamp housing for 12V100W halogen lamp with heat protection filter.
Transmitted light Condenser:	8 Position Condenser with slots for Phase Contrast, DIC, FLA and DF from 1.25x to 100x with high resolution and high contrast DIC prism inserts
Transmitted Light Filter:	True Colour Blue Filter, Day Light Conversion Filter and Green Filter.
Trinocular Phototube:	Wide Field Trinocular Head, Inclined At 30 Degrees With Three Step Light Path Selector – (Observation: Trinocular Photo Tube) 100:0; 80:20; 0:100.
Eyepiece :	10x Field No. 22mm.
Universal Set of Objectives:	Plan Semi Apochromatic 4x, 10x, 20x, 40x (Spring) and 100xo (Spring, Oil).
Stage:	Rectangular Mechanical Stage, Ceramic-coated coaxial stage with right hand low drive Control based on Wire diagram system and slide holder for two slides.
Fluorescence Attachment:	Fluorescence illumination of 100Watts with 6 positions filter wheel with filters for UV, Blue and Green excitations.

Cooled Digital Camera:	2/3inch CCD or better with Resolution 12.5 mega Pixel, Max resolution of 4080 X 3072 pixels. RGB color is captured with 12 bits each for R, G and B with image information yielding 4096 intensity values Peltier Cooling till –10 degree C **Spot Metering system 30%, 1% and 0.1% (measuring area can be moved in image freely) Image Integration (Integral and average with 64 frames max.** Should be able to capture in BMP, TIFF (48 bit images saved in TIFF format only), JPEG, PICT and AVI Exposure modes Auto, manual, SFL automatic Exposure time 1/44,000s-60s Camera Fully Controlled by Software.

Fluorescence Imaging and Analysis software

The software features should be suitable for basic Research work in Developmental Biology, Microbiology, Cell Biology, Cytogenetics, Stem Cell study with basic Fluorescence documentation as well as basic measurement with the help of micron bar and single-line measurement.

Basic Processing tools.

Compatibilities with all microscopes Digital Cooled Camers.

Image Overlay up to 8 individual channel images (Fluorescence images).

Simple Time Lapse; Combination of fluorescence and other contrasting techniques.

Contrast, Brightness, Gamma, Sharpening and Blurring adjustments possible.

Software system should be upgradable for Advance fluorescence Software modules.

The software should have the facility of interactive Measurement Module Using the mouse.

Measurements made by manually drawing on selected image. Types include - Linear distance, Curved length, Area, Angle, Count, Grey level. All measurements shown in real units. Width and colour of drawn lines can be adjusted and labelled with measurements.

Grouping so that objects that consist of multiple fragments are measured as one.

Results can apply to a single image or can be accumulated over multiple images.

Tracings can be stored and recalled for re-measurement by editing.

Results can be assigned to user-defined classes (userdefines name, colour code) Results are displayed individually and as a statistical summary in tabular form.

Measurement data can be exported MS Excel or Word or saved in Ascii file. Save/recall measurement configurations to named files

The software should have the facility to mix the camera live image with 'electronic' reticule images defined in a graphic file format.

Representative reticule examples are supplied including a #crosshair#, "scale-bar", "square and circle grids" . The application is primarily for use with Stereos microscopes for which changes to the image zoom will cause corresponding change to the reticule size.

User defined grids can be created by widely available graphics programs - not included. Compatible with Digital all cameras

The software should provide an extensive facilities for annotating images with freely drawn elements. Each element is shown both on the image and in a list on the annotation panel.

Text objects can be added in any position with defined font, colour, background colour (including transparent) and outline. Multiple straight lines can be drawn optionally with arrowhead, label & distance. Multiple rectangular, square, elliptical or circular shapes can be drawn on the image.

The properties of the elements are individually controlled by a floating panel. All actions can be reversed by means of Undo. Images (or Logo) may be placed in a freely positioned and sized rectangular region Merge to fix the tracing into the image a warning is given before this is done. Annotation can be copied an applied to another image.

The annotation layer is saved and recalled for each image automatically

The software should be powerful and versatile software for image processing and analysis designed specifically for quantifying microscope images. Dongle protected. Includes all the functions.

Operation and displays

Single-screen, simultaneous display of image and user interface

Display and analysis of colour or monochrome images

Pseudo colour of monochrome images

Image zoom up to x 20 with pan and scroll over all image

Display of multiple binary images superimposed over colour or monochrome image

Binary, grey and colour images are stored in PC memory

Memory is re-configurable for a larger number of smaller images and for a lower number of higher resolution images

Automatic measurement of multiple parameters

Grey and binary image processing

Image editing and automatic detection

Results in histogram, scattergram and statistical formats

Image Annotation

Annotation by straight and freehand lines

Circles and rectangles

User entered text

Individual control of size and colour of all annotation elements

Display of calibration scale

Image Gallery

Shows images stored in a specified directory in a gallery of thumbnail images

Alternatively, show the images currently used

Display selected image at full size

Export images

Image Processing

Point transforms, Convolution transforms, Morphological transforms, Image arithmetic, Image editing, Colour space transformations.

Binary Image Operations

Amendment, Identification operations, Logical operations, Image editing, Segmentation, Binary to grey graphic generation of grids and spokes.

Measurements Including

Colour, Grey level and Densitometric measurements, Field and feature measurements, User defined feature expressions, Histograms and statistics, Interactive line dimensions, Colour and grey level profiles, Frames and Calibration.

Sd/-
Coordinator, CNNUM