Tender Notification for the procurement of **Motorized Inverted Metallurgical Microscope for Bright Field and Dark Field** at IISc *(Last Date for submission of tenders: 7th February 2020)*

Dear Sir/Madam,

Kindly send your best quotation for the following item on C.I.P. Bangalore basis. Your quotation should reach us, duly signed on or before 1700 hours 7th February 2020.

Please enclose a compliance certificate along with the technical bid.

ITEM	SPECIFICATION
Microscope stand	High quality, microscope stand to provide long life and good mechanical strength. Coaxial focusing control. Stand should be equipped for transmitted light as well as reflected light. Stabilized electronic power supply for reflected light.
Motorized focus drive	Inbuilt motorized Z focus drive with a minimum step resolution of 10 nm or better
Nose piece	Sextuple revolving Nose piece should have strain free objectives. It should be possible to attach objectives suitable for bright field, dark field also in the same nose piece.
Reflector Turret	6 position reflector turret to accommodate reflector modules for bright field, dark field, DIC and polarizer.
Stage	Mechanical motorized scanning stage capable to accommodate different metal inserts as well multiple sample holder, travel range of 130x85mm or better having resolution of 0.1 μm
Eyepiece	High quality anti fungus widefield 10X eyepiece pair with adjusting mechanism, eye guards . Field of View of 23 and above. Interpupilary distance adjustment (55-75mm), dioptric adjustment ring on the left having adjustable dioptric scale of +/-5.
Illumination	Micro LED illumination system for the reflected light studies which can have usable working hours of minimum 60000 hours. Suitable for 230V 50Hz power supply
Shutter	Motorized shutter for multi dimentional imaging in bright field
Objectives	Enhanced contrast objectives suitable for reflected light. Magnifcations of 5X, 10X, 20X, 50X, 100X, 200X with free and sufficient working distances between tip of the objective and sample stage for housing and viewing thick polished sections and moulds. Should be capable to work in bright field and dark field.
Internal Optics	The internal optics should be free of any distortions and should give clear and aberration free images made of Infinity Colour Corrected System Optics (ICS)

Focus Drive	Co-axial knob provided based on a four stage gear reduction and fine focusing for silk smooth operation. There should be sufficient working distance for movement along Y direction i.e. between tip of the objective and the sample stage for housing and viewing thick polished sections and moulds. Rack and pinion gears for focus movement, height adjustable relative to top of stage, adjustable screw-stop to limit coarse range to protect specimens.
Motorized Magnification Changer	Provision to have components for increased magnification - motorized.
Image Viewing options	Should have 3 switching positions (100% Vis:0%L/ 0% vis:100%R / 50% vis: 50% R)
Beam Path switchover	Provision for beam path switching motor between visual observation or front port or base port
Filters	All suitable filters like, normal (day light), grey, yellow, blue & conversion filters to be provided.
Photomicrography system with computer and software	High resolution and high speed digital cooled CCD camera having minimum of 20 fps or better at full frame,6.0 mega pixel or better, USB 3.0 interface, 14 bit/pixel or better.
Workstation / Computer	Suitable high end computer / work station capable of handling the above imaging system should be provided.
Software	To be provided as additional accessory
Accessories	Objective centring tools, specialized condenser lens, instruction manual, dust cover and lens cleaning cloth.
Warranty	Standard warranty to be provided from the date of installation of microscope.
Installation	Installation of complete microscope unit and demonstration of photo micrographic system and its application software should be provided free of cost at the user site.
Camera	High resolution, Monochrome scientific gradae, peltier cooled CCD camera for fluorescence Imaging Resolution: 6.0 Mega Pixel Spectral range of 400 to 720 nm or better Dynamic range > 1: 2500 or better FWC 15Ke or better Read out noise: < 6.5 e or better Read out speed 39.0 MHz or better Frame Rate: 20 fps at full resolution Digitization: 14 Bit or better Interface: Firewire interface with option for Triggering: For Exposure time, for acquisition
System Control	Automatic and interactive Microscope control
Image Acquisition	Image capture Movie Acquisition Automatic Multi channel Image Acquisition ROI Imaging

Image Processing	Basic adjustment of Brightness, contrast and gamma Adjustment of colour in BF images Correction of bleaching effect in Z stack images Pixel shift correction Image smoothening basic Image Sharpening basic
Image Analysis	Interactive and basic measurement such as Length, Angle, diameter, Area, Perimeter Gray value measument along a line Statistical Analysis and evaluation of Data
Image Documentation	Creation of User defined reports
Image Viewing	Orthogonal View of Z stack Images Simultaneous Image observation for comparison
Utilities	Provision of retaining Acquisition Parameters
Metal Inserts:	The stage shall have metal Inserts with Opening of min.3 different diameters in the range of 10 to 30 mm

Terms and Conditions

1. Two bid system (separate technical and financial bids) in sealed tenders
2. Technical bids will be opened first. IISc may seek clarifications after opening of technical bids. IISc also reserves the right to cancel the tender at any time without assigning any reason whatsoever.
3. Price bids of only technically qualified vendors will be considered and the vendors will be informed the day of opening the price bids.
4. The price bids must offer CIP Bangalore prices.
5. Supply should be within 3 months of placing of order
6. Order will be placed on lowest bid from technically qualified vendor.

- The tender documents can be sent at the following address:

  Prof. Subodh Kumar
  Department of Materials Engineering
  Indian Institute of Science,
  Bangalore 560012