



Department of Biochemistry University of Kashmir, Srinagar.

In continuation of the advertisement No: UOK/ Biochem/ Kinase-2017/1, dated: 27th Feb 2017, it is intimated that the specifications of the microscope have been revised, as explained below. The date of extension is now extended to 31st March, 2017.

Sealed quotations/tenders with separate price bid and technical specification in two separate envelopes affixed with revenue stamp of Rs. 6.00 and accompanied with a C.D.R. for Rs. 5000/- pledged to the Principal Investigator, Department of Biochemistry, are invited from authorized dealers of the companies for the supply and installation of the microscope as specified below.

The vendors quoting must have Tin No: and latest VAT clearance certificate from the sales tax department. The specification should be supported with the catalog. The taxes if any should be indicated clearly. The tenders should be reaching to the office of the undersigned by or before 31st March, 2017 up to 4.00 pm.

Principal Investigator
Department of Biochemistry

*No: UOK/ Biochem/ Kinase-2017/II
Dated: 11th March, 2017*

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Features	Research grade fully Motorized Inverted Microscope with high resolution imaging attachment
Microscope stand	Fully motorised inverted research microscope with high end fluorescence accessories, high resolution imaging attachments capable of doing optical sections for samples like plants, animal sections, microorganism preparations etc. The system must be aligned with all necessary components from the same manufacturer for better integrity and effective service solutions. Must have built in dedicated TFT/ touch screen for all microscopic operations performing conveniently with visual impression and to program and customize functions according to user convenience. Provision to attach camera on left side port with 0:100 % light sharing with 16mm or more FOV for camera. Built in Motorized Z focusing with at least 10nm or lower Z step size resolution with variable speed setup at least 5 steps. All optics in the microscope should be chromatically corrected and infinity corrected.
Observation tube	Binocular tube with two eyepieces of 22 mm or better FOV.
Transmitted light	Transmitted light with or LED illumination. Suitable for bright field, and phase contrast illumination; with inbuilt motorized shutter.
Contrasting methods	Microscope should be equipped for Bright field, Phase contrast, DIC & Fluorescence applications. Should be field upgradable for Dark field.
XY Stage	Mechanical XY stage with universal sample holder that can accommodate glass slides, petri-plates and microplates (96 well plates).
Objective nosepiece	Motorized 6 position nose piece for easy operation.
Condenser	Motorized Condenser with min 6-7 positions suitable for DIC, Bright Field, Phase Contrast etc.
DIC Accessories	Microscope should have DIC prism, Polarizer and Analyser cube to perform Differential interference contrast (DIC) at various magnifications. DIC should work with both plastic and glass sample holders.
Fluorescence Illumination	Motorized Fluorescence Filter turret with 6 or more positions to accommodate fluorescence filter cubes. LED illumination for fluorescence applications, with min. 5 wavelengths for 365nm, 470nm, 530nm, 590nm & 620nm or similar. The light source should have high speed shutter and should be controllable by imaging software.
Fluorescence filters	Fluorescence filter for DAPI/Hoechst and narrow band pass filters for FITC, GFP, eGFP; TRITC, RHOD; RFP, CY3, CY5 fluorescence applications
Objectives	<ul style="list-style-type: none"> • Plan Achromat objective 4X/5X • Fluorescence grade, Plan Flour/ Neo Flour 10x objective; 0.25 N.A or better with DIC • Plan Flour/ Neo Flour 20x objective; 0.45 N.A or better with DIC • Long working distance Plan Flour/Neo Flour 40X objective; 0.6 N.A or better and DIC • 60X/63X Plan Apochromat objective with 1.4 N.A or better with DIC • 100X Plan Apochromat objective with 1.4 N.A or better may be quoted separately as an optional item • Dedicated live cell imaging objective 60X/ 63X Plan Apochromatic objective Live Cell Imaging, Long Distance objective with 1.4 N.A or better with DIC may be quoted as an optional item.

Eyepiece pair	10x/ 22mm or above Field of View
CCD Camera	<p>Cooled Monochrome & Colour 2/3 inch CCD Camera with 2-3 mega pixels, with a square pixel size of 4.54µm, frame speed of approx 20 FPS at 1.4 million pixels and should achieve a speed of approx. 40-50 frames/sec in Binning Mode</p> <p style="text-align: center;">or</p> <p>Dedicated peltier cooled 1.3- 3.0 MP monochrome camera with more than 30fps at full resolution.</p> <p>An additional CMOS Color camera with 5 Mega pixels or better should also be offered for an existing microscope.</p>
3-D imaging	Hardware/ software based 3D optical sectioning using structured illumination technique for high resolution fluorescence imaging. Provision for deconvolution of optical sections for further image improvement and a 3D software for further analysis should also be present.
Optional accessories	<ol style="list-style-type: none"> 1. Onstage active CO2 incubator: Along with necessary temperature controller, relative humidity and CO2 controller should be offered as an optional item. 2. Thermoplate: For maintaining the onstage temperature should be offered as an option item. 3. X-Y Motorized Stage with stitching software should also be quoted as an optional item.
Software	Software to control all the motorized components of microscope, above camera for acquisition of images in Multi-Channel Fluorescence Mode with Image Overlay, Time lapse, 3D image acquisition and reconstruction and Z stacking & Z control and Auto focus, Tile scan acquisition & Stitching and mobile control (iPhone/ Android/ Web control). All standard measurement facilities like length, area, intensity, counting etc. Automatic and programmable measurements for all parameters like intensity, area etc. All standard viewing facilities like split, gallery, ortho etc. Maximum intensity projections or Extended Depth of focus of images.
Computer System	Latest high end computer workstation. Branded compatible computer system with Xenon Quad Core Processor @ 3GHz or better, 16GB RAM, 2TB HDD, 23-24" LED / TFT monitor along with keyboard and mouse. Online 2 KVA UPS should also be provided.
Others	<ul style="list-style-type: none"> • All the optical hardware, software from single supplier would be preferred for seamless integration. • System should be upgradable to confocal microscope. • System should be upgradable to have FRAP and FRET applications (2nd infinity port upgradation should be possible). • Bidder has to demonstrate and train the faculty at least 3 times during the first six months on user site and should assist time to time to faculty or users on phone for minor problems. • Bidders are requested to provide technical compliance in details with document to justify the specifications or it should be available on manufacturer website/documents.