Tender Notification for the procurement of *"Microscopes for integrated optical tweezers and micro-manipulation set-up"*

(Last Date for submission of tender: 7 October, 2016)

Ref: PH/PRS/327/2016-17 22 September, 2016

Dear Sir/Madam,

Kindly send your best quotation for the following items with various accessories on C.I.P. Bangalore basis to the undersigned. Your quotation should clearly indicate the terms of delivery, delivery schedule, entry tax payment terms etc. The tender should be submitted in two separate sealed envelopes- one containing the technical bid and the other containing the commercial bid, both of which should reach the undersigned, duly signed on or before 17:00 Hrs, 7 October, 2016. Please use the enquiry number PH/PRS/327/2016-17 in your quotation.

Please enclose a compliance certificate along with the technical bid.

Microscopes for integrated optical tweezers and micro-manipulation set-up comprising of two sub-systems having components as listed below:

	TECHNICAL SPECIFICATIONS for sub-system#1	
	Component	Specifications
1	Microscope Body Inverted automated research microscope with remote access	INVERTED, MOTORIZED, FILTER TURRET Double deck system Motorized Control Unit Hub for automation Eyepiece 100%
2	Configuration	Double Deck: Sufficient physical space between the objective nosepiece and the flat plate above the focusing knob to mount two fluorescence turrets
3	Number of Camera Ports	2 (Left and right port/ Left and trinocular port) ports with 100%
4	Number of C mount adapters for camera ports	2
5	Objectives High numerical aperture objectives for TIRF/ Epifluorescence imaging	100X 1.3 or higher DIC objective with variable NA (Plan Fluor) 60X phase fluorite objective
6	Epifluoresence Filter turret	FITC, TRITC/Cy3 and Cy5 narrow bandpass filter

	Optimized for sequential and simultaneous detection of multiple fluorophores	cubes 2 extra empty filter cubes Motorized control of epifluoresence filter turret Motorized shutter in the fluorescence illumination light path (either on the turret or built-in in the light source)
7	Second Deck/Turret	Motorized
8	Stage specifications For Fast lateral scanning.	High speed Motorized XY stage with Encoders, Controlled by Joystick, High XY stability and repeatability. Minimum Cross Travel Range: X110 x Y75mm. Fine and coarse control of speed Holders for slides and 35mm petridishes
9	Focusing	Motorized Nosepiece, Minimum Step 0.01-0.05 micrometer. Precise Z focusing with well characterized step sizes, Ability to do fine and coarse movements
10	Focus Control	Perfectfocus or Z-drift correction system for timelapse lasting 12 hours or more. Continuous Automatic Drift Correction in IR (LED or Laser) based (control on the microscope and remote control).
11	Intermediate Magnification	1.0-2 X
12	Condenser	Long working distance condenser (Object distance 30mm or higher), High NA oil condenser, Darkfield oil condenser
13	Epifluorescence Illumination For the illumination of samples	Stable 130 W Mercury Vapor Short Arc, DC-powered with motorized shutter in case the epifluoresence turret does not bear the shutter Pre-centered lamp, with reflector coupled using Liquid light guide Internal Power Supply Panel Controls: Power On/Off, reset accumulated lamp hours, intensity setting (100 %, 50 %, 25 %, 12 %, 6 %, 3 % 0 %) Panel Displays: Accumulated lamp hours 5 Spare Lamps

14	Transmitted Light illumination for bright field microscopy	Tungsten/Halogen lamp 100W or higher with motorized shutter. Light intensity control, Light on/off switch, Operation with controller 5 Spare Lamps
15	Microscope Stage adapters and sample holders which allow several hours of DRIFT FREE (x,y) recording and ability to adapt to fast temperature changes reducing drifts during imaging	For Microscopy Glass slides For Petri dishes
16	Nomarski DIC system	Appropriate accessories so that both long working distance condenser and high NA oil condenser support 100X DIC imaging
17	Software for control	Company based or open source code like Micromanager, whichever is lower cost
18	Microscope Oil	2 Spare Oil bottles

	TECHNICAL SPECIFICATIONS for sub-system#2	
	Item	Specifications
1	Microscope Body Inverted research microscope	INVERTED Double deck system Eyepiece 100%
2	Configuration	Double deck: Sufficient physical space between the objective nosepiece and the flat plate above the focusing knob to mount two fluorescence turrets
3	Number of Camera Ports	3 (Left, right and trinocular port/ Left, right and bottom port) ports with 100%
4	Number of C-mount adapters for camera ports	2
5	Objectives	100X 1.3 or higher DIC objective (Plan Fluor) 40X fluorite objective 100X TIRF High N.A. (1.49 or higher)
6	Epifluoresence Filter Turret (Lower deck) Optimized for sequential and simultaneous detection of multiple fluorophores	FITC, TRITC/Cy3 narrow bandpass filter cubes 2 extra empty filter cubes

7	Stage specifications For Fast lateral scanning.	High speed Motorized XY stage with encoders, Controlled by Joystick, High XY stability, Minimum Cross Travel Range: X110 x Y75mm. Fine and coarse control of speed
8	Condenser	Long working distance condenser (Object distance 30mm or higher), High NA oil condenser
9	Epifluorescence Illumination For the illumination of samples	Stable 130 W Mercury Vapor Short Arc, DC-powered with computer controlled motorized shutter Pre-centered lamp, with reflector coupled using Liquid light guide Internal Power Supply Panel Controls: Power On/Off, reset accumulated lamp hours, intensity setting (100 %, 50 %, 25 %, 12 %, 6 %, 3 % 0 %) Panel Displays: Accumulated lamp hours 5 Spare lamps
10	Transmitted Light illumination for bright field microscopy	Tungsten/Halogen lamp 100W or higher with possibilities for sequential imaging with fluorescence. Light intensity control, Light on/off switch. 5 spare lamps
11	Microscope Stage adapters and sample holders which allow several hours of DRIFT FREE (x,y) recording with a possibility to change the extracellular medium and ability to adapt to fast temperature changes reducing drifts during imaging	For Microscopy Glass slides For Petri dishes
12	Nomarski DIC system	Contrast control: Senarmont method (by rotating polarizer) Objective side prism: for 100X objectives (installed in nosepiece) Condenser side prism: Long working distance, High NA oil condenser

Terms and conditions:

1. **The above mentioned technical specifications are highly desired. However, lower technical specifications may be considered if the above mentioned specifications are found to be unsuitable in financial terms. The Institute reserves the right to go for lower specifications taking into consideration its financial constraints and technical preferences.**

2. Offers which comply with technical specifications of only one of the two sub-systems mentioned above will be invalidated.
3. The vendor should have a good track record of having previously supplied similar equipment at least five places in India (please furnish the details).
4. The vendor should have qualified technical service personnel for the equipment based in India (preferably in Bangalore).
5. The payment will be through confirmed irrevocable Letter of Credit.
6. The lead time for the delivery of the equipment should not be more than 3 months from the date of receipt of our purchase order.
7. The validity period of the quotation should be 90 days.

Yours Sincerely,

Dr. Prerna Sharma, Dept. of Physics, IISc.

(on behalf of the purchase committee)