



# INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH

## PUNE

### CLARIFICATION ON TENDER NUMBER - IISER-PUR-0215-16

### ITEM DESCRIPTION- PROCUREMENT OF INVERTED FLUORESCENCE MICROSCOPE SYSTEM

Refer our Press Tender Notice No IISER/S&P/02/2016 dated 21.6.2016 for procurement of Inverted Fluorescence Microscope System. Tender Reference Number - IISER-PUR-0215-16.

Pre-Bid meeting was held on June 30<sup>th</sup>, 2016 at 2.30 PM and minutes of meeting is as under.

At the outset, the Chairman welcomed all the Members and the representative of the Prospective Bidders and briefed in general the scope of the Project and thereafter requested Assistant Registrar (S&P) to brief the vendors on the salient features of the commercial terms and the indenting Officer to read out the clarification sought by the Prospective Bidders and replied thereto as detailed in Annexure -II

The representatives present were satisfied with the replies given and it was informed that the corrections / additions / clarifications given, as discussed during the Pre-Bid Conference would be hosted on the website of IISER Pune and all the Prospective Bidders are required to take cognizance of the proceedings of the Pre-Bid Conference before submitting their bids as stipulated in the Bidding Documents.

The other terms & conditions of the notice issued on our IISER website [www.iiserpune.ac.in](http://www.iiserpune.ac.in) will remain unchanged.No more correspondence in this regard will be entertained

The meeting ended with vote of thanks to the Chair

30.6.2016

Sd/-  
Assistant Registrar (S&P)



## IISER PUNE

**PRE-BID CONFERENCE FOR PROCUREMENT OF INVERTED FLUOROSCENCE MICROSCOPE**

## TECHNICAL QUERIES AND CLARIFICATION

TENDER NUMBER - IISER-PUR-0215-16

DATE : 30.6.16

S.No	Query/Clarification Sought	Clarification / Amendment
1	Motorized microscope z-step size for all 3 configurations. Request to change step-size to 0.025 um.	The requirement is modified to a step size of atleast 0.03 $\mu\text{m}$ or better.
2	Light path splitting between camera and eyepiece for all 3 configurations. Request to include camera/eyepiece:80/20 option.	The requirement is modified to include the following camera/eye options: 100/0 50/50 or 80/20 0/100
3	Page 22. Query regarding whether two camera ports are necessary and whether both should be motorised in the IISER Tirupati configuration	Two active camera ports are required and should be motorised.
4	Queries associated with the NA , WD, positions and the contrast modality of the condensor.	IISER Tirupati configuration: Condenser with at least 0.5 NA or better and atleast 27 mm working distance or better, 6 positions or better with DIC.  Configuration 1 – IISER Pune:

		<p>Long working distance condenser with at least 0.4 NA or better and atleast 40 mm working distance or better, 6 positions or better with phase contrast.</p> <p>Configuration 2 – IISER Pune: Condenser with atleast 0.50 NA or better and atleast 27 mm working distance or better, 6 positions or better with Phase contrast.</p>
5	Queries regarding objectives in all three configurations	<p>For all 3 configurations the objectives required are as follows:</p> <p>Field corrected Phase objectives Semi apochromat or Plan-NeoFluar 10X/0.3 or better NA Semi apochromat or Plan-NeoFluar 20X/0.45 or better NA Semi apochromat or Plan-NeoFluar 40X/0.6 or better NA Plan-Apochromat 60X or 63X Oil/1.25 or better NA</p>
5	Queries regarding light sources for all 3 configurations.	<p>Light sources for all 3 configurations is as follows:</p> <p><u>Light source:</u> For bright field: 12V 100W Halogen lamp with dispersion filter, Day light filter, ND 25 and ND 6 with intensity control for Lamp. Or equivalent LED light source. For Fluorescence: 120 W metal halide, LED or equivalent with ~2000 hr or more of lifetime. Should have intensity control and Fast shutter Power supply w.r.t Indian requirements.</p>
6	Query regarding color and monochrome option camera in configuration for IISER Tirupati	<p>The specifications for IISER Tirupati configuration is:</p> <p><u>Camera:</u> Atleast 5 MP color camera which can also be used as monochrome. Pixel size : ~3um to ~6um frame rate : ~9 FPS or better at full capacity of the chip (without binning). Quantum efficiency should be above 65% or higher Camera should be 12 bit or higher. Minimum thermal and dark noise with Low exposure time</p>
7	Query regarding monochrome camera options for all 3 configurations	<p>The specifications for monochrome camera for all 3 configurations:</p> <p><u>Camera:</u> Atleast 1.4 MP or better cooled monochrome camera Pixel size : ~6um frame rate : atleast 15 FPS or better at full capacity of the chip (without binning). Quantum efficiency should be above 65% or higher Camera should be 12 bit or higher.</p>

		Minimum thermal and dark noise with Low exposure time
8	Clarification regarding additional space to insert second fluorescence filter cube turret in Configuration 1 and 2 for IISER Pune.	The specification is revised to: Additional space to insert second fluorescence filter cube turret should be provided along with the normal fluorescence filter cube turret. Alternatively, additional ports suitable for upgrades to TIRF or optical trap should be provided.
9	Clarification of number of filter cube positions on fluorescence turret.	At least 6 positions or better is required. Tender Specification prevails. No change in the specification.

**The revised Specification for INVERTED FLUOROSCENCE MICROSCOPE** for IISER TIRUPATI AND IISER PUNE are given below

## [A. Fully automated inverted fluorescence microscope \(IISER Tirupati\)](#)

### Microscope Frame:

Inverted microscope frame with motorized Z-Stepper (atleast step size 0.03  $\mu$ M or better) should have manual access for course and fine adjustments for focus and motorized switching between dual light path (camera 100% or eyepiece 100%) or triple light path (camera 100% or camera/eyepiece 50/50 or 80/20 or eyepiece 100%).

One fluorescence filter cube turret.

Two camera ports should be active

Touch Panel to control for the motorized parts of the microscope

### Eye piece:

2 No. 10X magnification, F.N 22 with focus correction,

### Nose piece:

Motorized 6 position

### Condenser:

Condenser with at least 0.5 NA or better and atleast 27 mm working distance or better, 6 positions or better with DIC

### Stage:

Motorized xy-stage with adapters for Labtek chambers, 35mm dishes and 96 well plate.

### Objectives:

Field corrected and with relevant DIC components.  
Semi apochromat or Plan-NeoFluar 10X/0.3 or better NA  
Semi apochromat or Plan-NeoFluar 20X/0.45 or better NA  
Semi apochromat or Plan-NeoFluar 40X/0.6 or better NA  
Planapochromat 60X or 63X Oil/1.25 or better NA

### Light source:

For bright field: 12V 100W Halogen lamp with dispersion filter, Day light filter, ND 25 and ND 6 with intensity control for Lamp. Or equivalent LED light source.  
For Fluorescence: 120 W metal halide, LED or equivalent with ~2000 hr or more of lifetime. Should have intensity control and Fast shutter  
Power supply w.r.t Indian requirements.

### Fluorescence turret:

Motorized turret with 6 or higher filter cube positions.

Filter cubes with excitation, emission and dichroics suitable for:

1. DAPI
2. FITC, GFP, Alexa 488, etc.,
3. TRITC, RFP, Rhodamine, Alexa 561 etc.,
4. CFP, Cerulean etc.,
5. YFP
6. DIC

### Camera:

Atleast 5 MP color camera which can also be used as monochrome.  
Pixel size : ~3um to ~6um  
frame rate : ~9 FPS or better at full capacity of the chip (without binning).  
Quantum efficiency should be above 65% or higher  
Camera should be 12 bit or higher.  
Minimum thermal and dark noise with Low exposure time

### Software:

Suitable software to control the motorized parts of the microscope to automate the acquisition in multi-dimension.

Computer with i7 processor(6<sup>th</sup> generation and above) and 32GB RAM, min 4GHz Processor, HDD 1TB, Addition 2GB Graphic card, with compatible OS for Acquisition software. 24" monitor

### **Optional**

Atleast 1.4 MP or better cooled monochrome camera

Pixel size : ~6uM

frame rate : atleast 15 FPS or better at full capacity of the chip (without binning).

Quantum efficiency should be above 65% or higher

Camera should be 12 bit or higher.

Minimum thermal and dark noise with Low exposure time

## **B. Fully automated inverted fluorescence microscope (Configuration 1 – IISER Pune)**

### Microscope Frame:

Inverted microscope frame with motorized Z-Stepper (step size atleast 0.03 uM or better) should have manual access for coarse and fine adjustments for focus and motorized switching between dual light path (camera 100% or eyepiece 100%) or triple light path (camera 100% or camera/eyepiece 50/50 or 80/20 or eyepiece 100%).

Additional space to insert second fluorescence filter cube turret should be provided along with the normal fluorescence filter cube turret. Alternatively, additional ports suitable for upgrades to TIRF or optical trap should be provided.

Touch Panel to control for the motorized parts of the microscope

### Eye piece:

2 No. 10X magnification, F.N 22 with focus correction,

### Nose piece:

Motorized 6 position

### Condenser:

Long working distance condenser with at least 0.4 NA or better and atleast 40 mm working distance or better, 6 positions or better with phase contrast

### Stage:

Manual xy-stage with adapters for Labtek chambers, 35mm dishes and 96 well plate. (Motorized stage should be quoted as optional)

## Objectives:

Field corrected Phase objectives

Semi apochromat or Plan-NeoFluar 10X/0.3 or better NA

Semi apochromat or Plan-NeoFluar 20X/0.45 or better NA

Semi apochromat or Plan-NeoFluar 40X/0.6 or better NA

PlanApochromat 60X or 63X Oil/1.25 or better NA

## Light source:

For bright field: 12V 100W Halogen lamp with dispersion filter, Day light filter, ND 25 and ND 6 with intensity control for Lamp. Or equivalent LED light source.

For Fluorescence: 120 W metal halide, LED or equivalent with ~2000 hr or more of lifetime. Should have intensity control and Fast shutter

Power supply w.r.t Indian requirements.

## Fluorescence turret:

Motorized Turret with 6 or higher filter cube positions.

Filter cubes with excitation, emission and dichroics suitable for:

1. DAPI
2. FITC, GFP, Alexa 488, etc.,
3. TRITC, RFP, Rhodamine, Alexa 561 etc.,
4. CFP, Cerulean etc.,
5. YFP
6. DIC

## Camera:

Atleast 1.4 MP or better cooled monochrome camera

Pixel size : ~6 $\mu$ M

frame rate : atleast 15 FPS or better at full capacity of the chip (without binning).

Quantum efficiency should be above 65% or higher

Camera should be 12 bit or higher.

Minimum thermal and dark noise with Low exposure time

## Software:

Suitable software to control the motorized parts of the microscope to automate the acquisition in multidimensions.

Computer with i7 processor(6<sup>th</sup> generation and above) and 32GB RAM, min 4GHz Processor, HDD 1TB, Addition 2GB Graphic card, with compatible OS for Aquisition software. 24" monitor

### **Optional**

Motorized xy-stage with adapters for Labtek chambers, 35mm dishes and 96 well plate.

## **C. Fully automated inverted fluorescence microscope (Configuration 2 – IISER Pune)**

### Microscope Frame:

Inverted microscope frame with motorized Z-Stepper (step size 0.03  $\mu$ M or better) should have manual access for course and fine adjustments for focus and motorized switching between dual light path (camera 100% or eyepiece 100%) or triple light path (camera 100% or camera/eyepiece 50/50 or 80/20 or eyepiece 100%).

Additional space to insert second fluorescence filter cube turret should be provided along with the normal fluorescence filter cube turret. Alternatively, additional ports suitable for upgrades to TIRF or optical trap should be provided.

Touch Panel to control for the motorized parts of the microscope

### Eye piece:

2 No. 10X magnification, F.N 22 with focus correction,

### Nose piece:

Motorized 6 position

### Condenser:

Condenser with atleast 0.50 NA or better and atleast 27 mm working distance or better, 6 positions or better with Phase contrast

### Stage:

Manual xy-stage with adapters for Labtek chambers, 35mm dishes and 96 well plate. (Motorized stage should be quoted as optional)

### Objectives:

Field corrected Phase objectives

Semi apochromat or Plan-NeoFluar 10X/0.3 or better NA

Semi apochromat or Plan-NeoFluar 20X/0.45 or better NA

Semi apochromat or Plan-NeoFluar 40X/0.6 or better NA

PlanApochromat 60X or 63X Oil/1.25 or better NA



Light source:

For bright field: 12V 100W Halogen lamp with dispersion filter, Day light filter, ND 25 and ND 6 with intensity control for Lamp. Or equivalent LED light source.

For Fluorescence: 120 W metal halide, LED or equivalent with ~2000 hr or more of lifetime. Should have intensity control and Fast shutter

Power supply w.r.t Indian requirements.

Fluorescence turret:

Motorized Turret with 6 or higher filter cube positions.

Filter cubes with excitation, emission and dichroics suitable for:

1. DAPI
2. FITC, GFP, Alexa 488, etc.,
3. TRITC, RFP, Rhodamine, Alexa 561 etc.,
4. CFP, Cerulean etc.,
5. YFP
6. DIC

Camera:

Atleast 1.4 MP or better cooled monochrome camera

Pixel size : ~6 $\mu$ M

frame rate : atleast 15 FPS or better at full capacity of the chip (without binning).

Quantum efficiency should be above 65% or higher

Camera should be 12 bit or higher.

Minimum thermal and dark noise with Low exposure time

Software:

Suitable software to control the motorized parts of the microscope to automate the acquisition in multidimension.

Computer with i7 processor(6<sup>th</sup> generation and above) and 32GB RAM, min 4GHz Processor, HDD 1TB, Addition 2GB Graphic card, with compatible OS for Acquisition software. 24" monitor

**Optional**

Motorized xy-stage with adapters for Labtek chambers, 35mm dishes and 96 well plate.



IISER PUNE

**PRE-BID CONFERENCE FOR PROCUREMENT OF INVERTED FLUOROSCENCE MICROSCOPE**  
**COMMERCIAL QUERIES AND CLARIFICATION**

TENDER NUMBER - IISER-PUR-0215-16

DATE : 30.6.16

S.No	Query/Clarification Sought	Clarification / Amendment
	-----NIL-----	-----NIL-----