



भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान तिरुपति
INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH TIRUPATI

Srinivasapuram, Venkatagiri Road, Jangalapalli Village, Panguru (G.P),
Yerpedu Mandal, Tirupati District, Andhra Pradesh India – 517619.

CLARIFICATION ON TENDER NUMBER: IISERT/PUR/1099/25

ITEM DESCRIPTION- SUPPLY, INSTALLATION AND COMMISSIONING OF HIGH RESOLUTION CONFOCAL UPRIGHT MICROSCOPE.

Tender Reference Number – IISERT/PUR/1099/25. dated 13/02/2026 for Supply, Installation and Commissioning of High Resolution Confocal Upright Microscope.

Pre-Bid meeting was held on Feb 20th, 2026 at 03.00 Hrs. via Google Meet and minutes of meeting is as under.

At the outset, the Deputy Registrar welcomed all the Members and the representative of the Prospective Bidders and briefed in general the scope of the Project and thereafter briefed 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 and Annexure-III**.

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 Tirupati 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 <http://www.iisertirupati.ac.in/> and <https://eprocure.gov.in/eprocure/app> will remain unchanged. No more correspondence in this regard will be entertained

DATE:20/02/2026

Sd/-
Deputy Registra



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ANNEXURE -II

PRE-BID CONFERENCE FOR SUPPLY, INSTALLATION AND COMMISSIONING OF HIGH RESOLUTION CONFOCAL UPRIGHT MICROSCOPE.

TECHNICAL QUERIES AND CLARIFICATION

TENDER NUMBER -: IISERT/PUR/1099/25

PRE-BID DATE:20/02/2026

S. No	Query/Clarification Sought	Clarification / Amendment
1	““The microscope must be equipped with a fully motorized Z-focus mechanism with a minimum step size of 25nm or better to enable high-precision optical sectioning.”	Amendment: The microscope must be equipped with a fully motorized Z-focus mechanism with a minimum step size of 10-25 nm to enable high-precision optical sectioning
2	Requested Amendment of support a maximum scan resolution of at least 8192 x 8192 (8K * 8K as all company has 8K resolution)	Amendment: The confocal scanning unit must be galvanometer-based and 8192 X 8192 or more pixels and faster pixel dwell times for high-speed imaging applications.
3	Requested Amendment for Stage: “A motorized XY scanning stage suitable for upright microscopy must be provided with a minimum travel range of 78 × 54 mm or better.” “A motorized XY scanning stage suitable for upright microscopy must be provided with a minimum travel range of 114 mm × 75 mm more”	Amendment: The specified motorized XY stage travel range of minimum 114 × 75 mm or more is based on the functional requirements of large-area plant specimen imaging and future scalability of the facility. This specification is not vendor-specific but application-driven. <ul style="list-style-type: none">• <i>The extended travel range is required to support whole-mount plant tissues, intact seedlings, large leaf sections, stem cross-sections, cleared specimens, and custom sample holders, which often exceed standard slide</i>

		<p><i>dimensions. It also enables automated tile scanning and stitching without manual repositioning, ensuring reproducibility and minimizing sample disturbance.</i></p> <ul style="list-style-type: none"> <i>The requirement ensures compatibility with multi-sample holders, large Petri dishes, phenotyping workflows, and high-content plant imaging applications, thereby future-proofing the system. hence, the specification does not restrict fair competition but reflects advanced research needs.</i>
4	<p>Requested Amendment for scan speed: “Scan speed should be 7–10 fps or better @ 512×512 and should be able to increase up to 240 fps @ 512×16 or better.”</p> <p>Scan speed should be 35-40 fps or better @ 512x512 and should be able to increase up to 350-400 fps or better @512X16.</p> <p>Please mention the Dwell Time as 0.2 Micro Second per Pixel. The Reason is different companies show highest speed at different resolutions,, Some at 512x16 Pixels, Some at 512X32 Pixels, Some at ROI (Region of Interest). If you put Dwell Time then everybody will be on the same page, If low area like 512X16 will be scanned the time will be less if 512X32 Pixels will be scanned, time will be more and same will be hold good for ROI Imaging</p>	<p>Amendment: Scan speed should be 10 fps or better @ 512×512 and should be able to increase to a minimum of 400 fps or better at 512X16 better.</p> <p>☑ <i>The scan speed specification is revised to 10 fps or better at 512 × 512 resolution and ≥400 fps or better at 512 × 16 resolution, as this performance level is sufficient for live-cell imaging, time-lapse studies, and most dynamic biological applications while maintaining optimal image quality and signal-to-noise ratio.</i></p> <p>☑ <i>The revised specification ensures high-speed capability in reduced ROI mode for fast biological events and aligns with practical performance standards of modern resonant laser point-scanning confocal systems, thereby promoting fair competition without compromising scientific requirements.</i></p>

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5	<p>Laser point scanning and inbuilt Confocal detection unit with atleast 3 channels for simultaneous detection of fluorophores. Detectors should be capable of working in Intensity and Spectral mode Imaging. System should be a combination of min 2 or more GaAsP/HyD/Silicon detectors.</p>	<p>Amendment: The system should be a laser point-scanning confocal microscope with an inbuilt confocal detection unit having at least 3 channels for simultaneous detection of fluorophores. Detectors must support both Intensity and Spectral mode imaging and should include a combination of minimum one or more GaAsP/HyD/PMT detectors. Silicon-based detectors (e.g., Leica HyD S or other silicon hybrid detectors) may be considered acceptable provided they meet equivalent sensitivity, dynamic range, and spectral detection performance.</p> <p><i>Justification: GaAsP and Hybrid (HyD) detectors provide higher quantum efficiency and superior signal-to-noise ratio compared to conventional PMTs, which is critical for low-expression fluorophores and live-cell imaging. However, high-sensitivity PMTs are widely accepted, reliable, and cost-effective for routine intensity-based confocal imaging. Therefore, allowing GaAsP/HyD/PMT ensures broader technical participation without compromising scientific performance.</i></p>
6	<p>A motorized objective nosepiece with a minimum of at least six objective positions must be provided to allow rapid and reproducible objective switching for 10X/NA 0.4, 20X/NA 0.75, 40X//NA 0.95, 60X/63X/NA 1.3 (oil immersion and water immersion) 100 X/NA 1.4 (oil and/or water immersion). The adapters for 35/60 mm petri dishes for column formation should be provided</p>	<p>Amendment: The system should be equipped with a fully motorized objective nosepiece with a minimum of six (6) objective positions to facilitate rapid, automated, and reproducible switching between objectives. The system must include the following objectives: 10X/NA 0.4, 20X/NA 0.75, 40X/NA 0.95, 60X or 63X/NA 1.3 and 1.4/1.46 (oil immersion and water immersion), and 100X/NA 1.4 (oil and/or water immersion). Suitable stage adapters for 35 mm and 60 mm Petri dishes for column formation assays must be provided</p> <p><i>Justification: The specified objective range enables low-magnification overview imaging (10X), intermediate resolution imaging (20X–40X) for colony and spheroid/column formation assays, and high-resolution subcellular imaging (60X/63X and 100X) for detailed structural and fluorescence analysis. High NA (≥ 1.3–1.46) oil and water immersion objectives are essential for optimal</i></p>

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		<i>resolution, photon collection efficiency, and refractive index matching in live-cell, thick specimen, and aqueous plant tissue imaging. Inclusion of water immersion objectives is particularly critical for live imaging, organoids, spheroids, and plant specimens where oil immersion may not be suitable.</i>
7	<p>Requested Amendment for detector sensitivity:</p> <p>The inbuilt detection system must include high-sensitivity detectors with QE/PDE at least 50±5 % or better, suitable for low-signal fluorescence imaging with a detection range of at least 400 to 700 nm.</p> <p>Please remove PMT from the Detector List. As you know PMT has the least Quantum Efficiency among the detectors mentioned, If given choice, everybody who is still offering this low QE PMT Detectors will not offer GaAsp/Hyd dectectors. If you want to retain PMT just add a line that QE of the detectors should be 45% or more. PMT QE is 30 to 35% only</p>	<p>Amendment: The inbuilt detection system must include high-sensitivity detectors with QE/PDE at least 45±5 % or better, suitable for low-signal fluorescence imaging with a detection range of at least 400 to 700 nm.</p> <p><i>Justification: High QE/PDE (≥45%) is essential for efficient photon collection, particularly in low-expression fluorophores, weak reporter lines, live-cell imaging, thick plant tissues, and deep-tissue confocal imaging where signal levels are inherently low. Higher detector efficiency directly improves signal-to-noise ratio (SNR), reduces photobleaching, and allows lower excitation power—critical for maintaining cell viability and minimizing phototoxicity.</i></p>

Signature of Committee Member

					
Dr. Nibedita Pal	Dr. Chandrasekar P	Dr. Prasanna Katti	Dr. Pavithra Chavali	Dr. Vasudharani Devanathan	Dr. Anand Kumar Singh



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ANNEXURE -III

PRE-BID CONFERENCE FOR SUPPLY, INSTALLATION AND COMMISSIONING OF HIGH RESOLUTION CONFOCAL UPRIGHT MICROSCOPE.

COMMERCIAL QUERIES AND CLARIFICATION

TENDER NUMBER -: IISERT/PUR/1099/25

PRE-BID DATE:20/02/2026

Sr. No	Query/Clarification Sought	Clarification / Amendment
1	NIL	NIL