



**NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA – 769 008, ODISHA**

Advertised Tender Enquiry

Department: Life Science

Tender Notification No: NITR/PW/LS/2020/214

Date: 22/12/2020

To

Important Dates

Bidding
Through
e-Procurement module
of CPP Portal

(<https://eprocure.gov.in/eprocure/app>)

Event	Date	Time
Pre-bid Conference	08/01/2021	11:00 AM
Last Date of submission of bid	18/01/2021	11:00 AM
Date of opening of techno-commercial bid	19/01/2021	11:00 AM

Dear Sir,

We intend to purchase the commodities specified below and invite quotations in accordance with the terms and conditions detailed in the bid document. If you are interested, kindly send your offer with prices and complete terms within the time mentioned above.

For any clarification, you may contact to:

Attention:

**Prof. Rohan Dhiman
Associate Professor
Department of Life Science
NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA – 769 008, ODISHA, India
Phone: (0661) – 2462780, 9337416293
Email: dhiman@nitrkl.ac.in**

Yours sincerely,

Prof. R. Dhiman

Encl:

- (1) Schedule of requirement, specifications, dates etc.**
- (2) Bid document containing detail terms and conditions.**

1. **Schedule of requirements**

Item No	DESCRIPTION	Quantity
1	High-Resolution Laser scanning Microscope with Live-Cell Imaging Facility (as per detailed Annexure-II)	1 Unit

2. **Specifications and allied Technical Details**

As per Annexure - II

3. **Format of Quotation** (tick appropriate box)

- It is a two-part bid with separate covers,
Cover-I: Tender cost, Bid Security Declaration, techno-commercial bid and
Cover-II: Price bid, (BOQ). Please see e-Procurement module of CPP Portal <https://eprocure.gov.in/eprocure/app> for instructions for the method of bidding.

4. The bid should be submitted through <https://eprocure.gov.in/eprocure/app>

5. Quotations should be valid for a period of **120 days** from the date of opening of techno-commercial bid.

6. **Some important dates:**

i. Pre-bid Conference	Date: 08/01/2021	Time: 11:00 AM
ii. Last date for submission of Bid:	Date: 18/01/2021	Time: 11:00 AM
iii. Date of opening of Techno-commercial Bid:	Date: 19/01/2021	Time: 11:00 AM

7. The Pre-bid Conference will be held through online mode in the "**Dept. of Life Science, NIT Rourkela- 769008**" as per the schedule date & time given above for clarifying issues and clearing doubts, if any, about the specification & other allied technical details. The prospective bidders may attend the pre-bid conference on scheduled date and time as mentioned above. Link to join the meeting through google meet is: <https://meet.google.com/cxk-ycoj-vai>

8. **Warranty:** Minimum of 5 years from the date of installation (including all parts and consumables supplied by the vendor) and during this warranty period, authorized service engineer should visit at least twice in a year in addition to the break-down call.

9. (a) All prices to be quoted on FOR basis (NIT Rourkela) in INR. The system should be delivered up to NIT Rourkela and the cost should be included in the offer.
(b) GST: GST should be charged at applicable rates against DSIR certificate.

- 10. Tender Cost:** Tender cost (Non- refundable) in the shape of Demand Draft for **INR 500/-** (Rupees Five Hundred only) in favor of "**Director, NIT Rourkela**" Payable at Rourkela from any Scheduled Commercial Bank except Co-operative and Gramin bank. Tender Cost should reach physically through speed post/ register post/courier, containing in an envelope & superscripted with subject, tender reference number addressing to **Registrar, NIT Rourkela- 769008, Odisha**; on or before **19/01/2021 at 11:00 AM**.
- 11. Bid Security:** It is mandatory to submit the "Bid Security declaration" form as mentioned in **Annexure I**, failing which the bid will be summarily rejected.
- 12. Performance Security: 3% of Contract Value** should be deposited to the Institute within 15 days from the date of issue of Purchase Order, in favor of "Director, NIT Rourkela" and payable at Rourkela from any Scheduled Commercial Bank except Co-operative and Gramin Bank. And Performance security should remain valid for a period of 60 days beyond the date of completion of all contractual obligations of the suppliers including warranty obligation.
- 13.** Please go through the enclosed "bid document" carefully for other bidding instructions.
- 14.** Please send your quotations through <https://eprocure.gov.in/eprocure/app>
- 15. Techno-commercial Bid Evaluation Criteria:** The evaluation of the Techno-commercial Bid will be as per the detailed technical specifications given in Annexure–II. If required, the bidder(s) may be asked to provide additional clarification regarding the technical aspects. The following points are also to be considered as a part of evaluation criteria;
 - i. Scanned copies of the technical brochure of the above equipment and accessories as per the Annexure-II must be included in the techno-commercial bid. Pointwise technical compliance along with any deviation of the mentioned specifications (Annexure-II) must be indicated along with technical documents.
 - ii. Web references must be provided along with the technical bid.
 - iii. Customized equipment and accessories (as per Annexure-II) will not be accepted. The standard equipment and accessories (as per Annexure-II) will only be accepted.
 - iv. Make and model no. should be mentioned in the technical bid.
 - v. Bidders should clearly specify after sales service/application support capabilities.
 - vi. The bidder must also assure in writing that (a) after sales regular maintenance service as well as (b) emergency breakdown service will be attended at the regular time interval for (a) and within 72 hours for (b).
 - vii. Service/Manpower: Should provide onsite instrument operation support with manpower for at least 2 years.
 - viii. The vendor should be able to provide all spare and parts for minimum of 10 years from the date of installation.
 - ix. Scanned copies of ten purchase orders of the quoted equipment model and accessories within last three years must be enclosed along with the technical bid.
 - x. The firm must provide the list of well reputed national and international organizations/Universities, where the quoted system is installed.
 - xi. The bidder must have valid authorization from the OEM specific to this tender. Documentary proof regarding this must be attached

- 16. Financial Bid Evaluation Criteria:** Financial bid will be evaluated for the award of contract based on overall quoted price in BOQ for Sl. Nos. 1.01, 1.02, 1.03 & 1.04. However the price quoted for the optional items as mentioned in BOQ will not be considered for evaluation. These optional items are exploratory in nature and based on the availability of funds order would be placed for them.
- 17.** For technical details, you may contact

Prof. Rohan Dhiman
Associate Professor
Department of Life Science
NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA
769 008, ODISHA, India
Phone: (0661) – 2462780, 9337416293
Email: dhimanr@nitrkl.ac.in

NB: ***Please furnish your Dealership Certificate (must) and Proprietary Nature Certificate (If applicable)***



NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA – 769 008, ODISHA

BID DOCUMENT

1. Instructions to the bidders

- 1.1 Bids are invited on behalf of the Director, National Institute of Technology (NIT), Rourkela – 769 008, Odisha, from the intending bidders for supply of the goods/stores/ equipment for the Institute as detailed in the enquiry letter.
- 1.2 The bidders should quote their offer/rates following the list provided in **BOQ** in clear terms without any ambiguity.
- 1.3 In case of any discrepancy between the rates in figures and that in words, the rate in words will be accepted as correct.
- 1.4 The last date for receipt of the bid is marked in the enquiry.
- 1.5 The bids should be uploaded in <https://eprocure.gov.in/eprocure/app> Please follow the guidelines of the site.
- 1.6 If a prospective bidder requires any clarification in regard to the bidding documents, he may make a request the concerned officer or faculty member at least 15 days before the deadline for receipt of bids.
- 1.7 Bids received after the deadline of receipt indicated in para 1.4 above, shall not be taken in to consideration.
- 1.8 Each bidder shall submit only one bid. A bidder, who submits more than one bid, shall be disqualified and will be considered non-responsive.
- 1.9 The bids will be submitted in two parts, viz., techno-commercial bid and financial bid.
- 1.10 The bidder has to put his full signature in full in all the pages of the scanned part of the bidding document. No over-writing in those pages is acceptable.
- 1.11 If any bidder does not fulfil technical specification, his/her eligibility will be cancelled even if his/her price got L1 status.
- 1.12 Bidders registered with any of the following agencies/ bodies as per Public procurement policy for Micro & Small Enterprises (MSE) order 2012 are exempted categories from payment of EMD provided that the registration Certificate issued by any one of these below mentioned agencies must be valid as on close date of tender. Micro small or medium enterprises who have applied for registration or renewal of registration with any of these agencies/bodies but have not obtained the valid Certificate as on close date of tender are not eligible for exemption.
 - i) Khadi and Village Industries Commission (KVIC)
 - ii) National Small Industries Corporation (NSIC)
 - iii) Any other body specified by Ministry of MSME/GOI

2. Conditions of the bid

- 2.1 The rates quoted should preferably be net, inclusive of packing, forwarding, freight, Insurance and all other incidental charges including taxes. In case these charges are quoted extra in addition to the quoted rates, the amount thereof or Ad Valorem rate must be specified. Packing, forwarding, freight, entry tax etc., when quotes separately are reimbursable at actual. If external agencies are employed, their receipts must be enclosed with the invoice.

- 2.2 Duties and Taxes are to be quoted separately. Ad Valorem rates thereof should be clearly indicated with reference to the relevant Acts and Rules.

It may be noted that the Institute is availing custom duty exemption in terms of Notification No. 51/96 – Customs dt. 23.07.1996, Notification No. - 47/2017- Integrated Tax (Rate) dt. 14.11.2017 and Notification No- 45/2017 – Integrated tax (Rate) dt. 14/11/2017 & Notification No. - 45/2017- Central tax (Rate) dt. 14.11.2017, Notification No. - 45/2017- Union Territory Tax (Rate) dt. 14/11/2017 [Vide DSIR, Ministry of Science and Technology, Government of India, Registration No.: TU/V/RG- CDE (227)/2016, dated: 13.11.2018]

- 2.3 The goods are required to be delivered at the indenting Department of NIT, Rourkela, and must be reached within **120 days or earlier** from the date of placement of the supply of order under the risk and arrangement of the bidder and offers with delivery beyond the above period shall be treated as unresponsive. In case the delivery time is higher, the same must be mentioned clearly in the bid.
- 2.4 The bid should remain valid for a period of **120 days** from the date of opening. In case-the bid offer has a different validity period, the same should be clearly mentioned in the bid.
- 2.5 Conditional discount, if any, offered by the bidder shall not be considered at the time of evaluation.
- 2.6 The goods offered should strictly conform to the specification and technical details as mentioned in **Annexure-II**.
- 2.7 The Institute may like to conduct pre-dispatch inspection of goods, where applicable.
- 2.8 Period of guarantee/warranty, where ever applicable, should be specified in the bid.
- 2.9 If the successful bidder, on receipt of the supply order, fails to execute the order within the stipulated period, in full or part, it will be open to the discretion of Director, NIT Rourkela to recover liquidated damage from the firm at the rate of 1 percent of the value of undelivered goods per month or part thereof, subject to a maximum of 5 percent of the value of undelivered goods. Alternatively, it will also be opened to the Director, to arrange procurement of the required goods from any other source at the risk and expenses of the bidder.
- 2.10 The successful bidder may be required to execute a contract, where applicable.
- 2.11 The bidder has to furnish up to date GST and Income Tax Clearance Certificate along with the bid.
- 2.12 Purchase order / Work order shall be placed on the bidding firm(s). In case of deviation to this, if any, the bidding firm should produce any such sufficient documents/credentials i.e., Agreements, MOUs, Arrangements etc. with the third party/ OEM to satisfy the buyer. A consent letter from the third party/ OEM to that effect must be enclosed along with the bidding documents.
- 2.13 90% payment will be made through LC against shipping documents. Remaining 10% payment will be released through wire transfer after commissioning of the equipment, installation, demonstration and onsite training in the Department of Life Science, NATIONAL INSTITUTE OF TECHNOLOGY, ROURKELA.
- 2.14 State Bank of India is the sole Banking partner for NIT Rourkela for operation of LC (Letter of Credit).
- 2.15 In the event of any dispute arising out of the bid or from the resultant contract, the decision of the Director, NIT, Rourkela shall be final and binding.
- 2.16 The bid document/resultant contract will be interpreted under Indian Laws.

BID SECURITY DECLARATION

Tender Ref. No.: _____ Dated _____

Tender ID: _____

To

**The Registrar,
National Institute of Technology, Rourkela
Sundargarh, Odisha-769008**

The undersigned, declare that I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration. I/We accept that I/We may be disqualified/ suspended from bidding for any tender /contract in your Institute (NIT Rourkela) for a period of **Five Years** from the date of notification of present tender, if I am /We are in a breach of any obligation under the bid conditions as under, if I/We

- a) Withdraw/modify/amend, impair or derogate the tender/bids, during the period of bid validity specified in the form of Bid; or
- b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity
 - (i) fail or refuse to execute the contract, if required, or
 - (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: (insert signature of person whose name and capacity are shown) in the capacity of (insert legal capacity of person signing the Bid Securing Declaration)

Name: (insert complete name of person signing the Bid Securing Declaration) Duly authorized to sign the bid for and on behalf of (insert complete name of Bidder)

Dated on _____ day of _____ (insert date of signing) Corporate Seal (where appropriate)

(Note: In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid)

Tender Specification for High-resolution Laser Scanning Microscope

The High-resolution Laser Scanning Microscope should be the state-of-art technology suitable for live and fixed biological samples. The system should be highly sensitive by optics and detection device meeting various needs of modern biological applications including live cell growth and time-lapse imaging of prokaryotic and eukaryotic cells, DIC imaging, FRAP, FRET, photo-activation/bleaching and photo-conversion experiments. The system should be upgradable to advanced imaging techniques on site in future. The vendor should supply the entire system with all necessary accessories and complete system integration of hardware components. The vendor should be responsible for the complete system installation, functioning, maintenance and training by trained engineers.

The system should be offered with the following configurations.

Part I: Inverted Microscope

1. Fully motorized inverted microscope for bright field, fluorescence and DIC, with tilt able eyepiece for better ergonomcy.
2. Motorized Z-focus drive with minimum z-step size of 10 nm or better with dedicated TFT/LCD touchscreen for the control microscope. Hardware based Dedicated Drift compensator (IR Laser /LED based) for longtime Live Cell Imaging.
3. 6 position motorized FL filter wheel & 6 position motorized nosepiece with DIC attachment.
4. LED / Halogen illumination for transmitted light & 120W or better metal halide illumination or LED illumination with 2000 hr or higher lifetime for fluorecence should be offered. In case of LED Illumination in fluorecence mode, min 4 LED's should be part of the configuration (375nm, 477nm, 552nm and 640 nm or equivalent).
5. Universal Motorized Condenser 6-7 position long working distance condenser with dedicated slots for DIC objective specific prisms. The DIC prisms and polariser should automatically switch positions when respective objectives are selected and fluorecence incident light back-reflection blocking mechanism.
6. High resolution Confocal Grade Plan-Apo objectives 10x/0.4NA (or better), 20X/0.7 NA (or better), 40x/0.95NA (or better) and 60/63x oil with 1.4 NA (or better), 100X/ 1.4 NA (or better) oil. Firms who are having more than 100x with 1.45 NA objective should also supply. Shift free DIC accessories for all objectives should be quoted. Immersion liquid (50ml) should be supplied with the microscope.
7. Narrow Bandpass Pixel shift free fluorescent filters for DAPI, GFP, RFP, and Cy5 should be quoted.
8. All of the DIC components including DIC prism of all the objectives should move independently and automatically and controlled by software only to avoid manual jerking during live cell experiments.
9. Motorized XY stage: High resolution motorized linear encoded X-Y scanning stage, specimen stage should be with universal sample holders. Ability to do multipoint, multi well imaging with spatial memory to scan the previously chosen point. Suitable travel range is required for Dish, Slide & Well Plate.

Part II: Confocal System Component

1. The confocal detection unit with a provision of minimum 5 built-in Spectral HyD/GaAsP Spectral detectors and should be quoted with minimum 3 High Sensitivity HyD/GaAsP detectors. All detectors should be capable of working in Intensity and Spectral mode Imaging.
2. It should be capable of simultaneous detection and separation of at least 3 fluorophores or more based on highly sensitive GaAsP / HyD detectors with QE 50±5 %, higher will be preferred.
3. All the detectors should be built in (in the scan head) Spectral type. The spectral dispersion of the emission light should be based on either reflection/transmitted grating with or without 32 array detector or prism-based dispersion with highly efficient spectral detectors. All the FL detectors of the scan head should be filter free with freely selectable emission band width detection capability to suit to the emission spectra of the dyes.
4. The system should be capable of recording emission spectra with minimum spectral resolution of 5nm or lesser throughout the visible spectrum range. Computer controlled continuously variable confocal pinhole.
5. Maximum scan resolution should be at least 8K X 8K or higher for all channels and higher will be preferred in spectral mode.
6. The scan field diagonal should be at least 20 mm (or more) F.O.V.
7. Scan Zoom range 1:48x or more and should be adjustable in steps of 0.1 or better.
8. System should be capable of acquiring minimum 30 frames per second pixel resolution in spectral mode and should increase upto 130 fps 512 X 16/32 resolution with ROI and zoom selection. Digitization capability of 8/12/16 bit should be available with the system.
9. An additional transmitted light detector should be offered for bright field and DIC imaging.

Part III: Laser Lines required

1. Solid State lasers (10000 hrs. life span): 488nm, 514 nm, 561nm, and 633 nm/639 nm.
2. UV 405 Laser with ROI capability.
3. All the laser must be controlled through AOTF for better laser switching and intensity control.
4. All the lasers should have minimum power of 20mw or more and a guaranteed 10000hrs of working lifetime. Laser units should be connected to the scan head through fiber optic cable. Laser wavelength may vary upto ±5 nm.
5. The entire lasers should be switched on/off through single switching power button and should be provided in a closed box with laser combining facility. All the visible lasers should include AOTF control and Low Angle Dichroics for excitation/emission separation.
6. 445/440/448/458 nm and 594 nm (for mCherry dye) nm Lasers should be quoted in option.

Part IV: Software modules

It should include / capable of:

1. Controlling motorized functions of microscope, scan head control, laser control including AOTF and image acquisition & processing. Saving of all system parameters with the image for imaging.
2. Advanced & Dedicated confocal 3D visualization software module to immediately open the multidimensional images like multichannel Z stack with time series.
3. It should be able to measure the biovolume, biomass, thickness and other parameters of the cells.

4. It should be able to visualize the cytoskeleton and cellular structures of both prokaryotic and eukaryotic cells and also will be able to measure the length of the cells as small as 2 micrometres or less with the in-built scale.
5. It should be able to play the time series volume as 3D time series movie. It should allow to record the 3D animation with various adjustment like pseudo colouring, intensity, rotation, clipping, 3D enhancement etc., Various 3D projection: Transparent, Maximum Intensity, and Depth coding, Stereo images (cyan / magenta, horizontal and vertical shutter, quad-based) 3D image reconstruction from a Z-stack and time lapse (xyzt) image series basic software 2D deconvolution & co-localization analysis.
6. It should be able to deliver color coded / color scaled images based on the intensity of the signal / level of colocalization. Kymograph, dynamic region of Interest, online intensity measurement for ratio and FRET, FRAP acquisition and analysis, Online Spectral Imaging & unmixing.

Part V: Computer & Monitor

1. The branded HP/Dell computer must be factory recommended and tested. High Performance Xeon Processor based Workstation 64 GB RAM, 8TB HDD and 500GB or more SSD.
2. High Performance Professional Graphics Card with Windows 10 Professional (64 bit). One or more 30-32 inch High Resolution Monitor, Key board, Mouse.

Part VI: Super-resolution and live cell imaging system

1. Super-resolution Imaging capability: The system must have equipped with a fully automated online super-resolution module to achieve a resolution of up to 120-140 nm or better in XY and 300-350 nm in Z. Detection should be based on high sensitive detectors with QE/PDE must be 50±5% or higher for super resolution imaging.
2. The super resolution system should be able to capture at least 3 fluorophores simultaneously specially to perform live cell imaging in super resolution mode.
3. **On stage Incubation system:** With programmable and remotely operated control of Temperature, Humidity and active CO₂ and O₂. The incubation setup should be for CO₂ and O₂ controller and fitted with the lens heater for oil objective for live Prokaryotes and Eukaryotes growth (minimum upto 72 hours in multi-well plates and petri-dishes of 35mmx1pc, 35mmx2pcs and 50/60mm) and imaging; and should be controlled with software and touch panel controller. Dish attachment is required for chambered cover glass, chamber slide and slide glass with internal humidifier. Sensor lids are required for 35mm, 50mm, chamber slide and chambered cover glass. Another 3 (three) sets of Chamber units and Dish Attachments must be supplied. Quote the O₂ Level controller to perform hypoxia related live cell imaging.
4. **High Sensitive Scientific CCD Camera:** A Peltier cooling CCD camera suited for both- low light fluorescence application and brightfield imaging should be quoted. The camera should have minimum 1900 x 1200 pixel, 4.5 µm x 4.5 µm or bigger pixel size. Various binning modes in both color and monochrome and overlapping mode for high-speed imaging should be available with 12 bit and 8-bit digitization mode. Typical frame rate should be 45 fps or more @ full resolution.
5. **Active Anti-Vibration Table:** Active anti-vibration table with bread board should be supplied along with the system for the better compatibility. Air compressor must be the part of the Anti-vibration table. A Computer Table of reputed brand should also be supplied along with the system.

Part VII: Accessories

1. Ergonomic chairs - 4(four) nos. of reputed brand should be supplied. The chairs should have a high back with proper lumbar support to provide correct lower spine positioning when seated, even when leaning forward looking into a microscope. The seat height and arm rests should be comfortable and adjustable with added footrest. The chairs should roll and swivel freely.
2. Bidder should also install two 1.5 ton 5-star branded inverter ACs with relay for 6-h interval for continuous cooling in the designated room.
3. Dehumidifier should be provided for better functioning of the instrument.
4. Online UPS of 10 KVA for the complete system including lasers supply with 1 hr. or more backup.
5. Suitable CO2 and N2 Cylinders should be quoted with controllers.
6. Vendor should supply suitable dyes (Red, Green, Blue emitting dyes), plates (100 numbers live cell imaging) and chambered slides (50 numbers 8-well sterile glass).

Part VIII: Other requirements

1. Bidders should clearly specify after sales service/application support capabilities.
2. Provide all information about pre-installation requirements (i.e. room, environment) for system installation.
3. Warranty period: Minimum of 5 years from the date of installation (including all parts and consumables supplied by the vendor) and during this warranty period, authorized service engineer should visit at least twice in a year in addition to the break-down call.
4. Service/Manpower: Should provide onsite instrument operation support with manpower for at least 2 years.
5. The system should be delivered up to NIT Rourkela and the cost should be included in the offer.
6. The system should be upgradable to IR imaging in future.
7. The vendor should be able to provide all spare and parts for minimum of 10 years from the date of installation.

Part IX: Optional Items:

1. Resonant Scanner: A resonant scanner should be quoted in option with the following specification and the given price should be valid for 1 year from the date of offer:

An actively cooled resonant scanner with minimum resolution of 2Kx2K or more and Up to 25 frames / second at 512 x 512 (full frame) should be possible and should go up to 300±10 frames / second at 512 x 16.
 2. Additional 2 number of HyD detectors should be quoted in option and the quoted price should be valid for at least one year.
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