

Notice Inviting Tender

Supply and Installation of Live Cell Confocal system with FLIM and FCCS module

Tender No. DBT-IISC/DBS/CONFOCAL-FLIM-FCCS/2019-20



INDIAN INSTITUTE OF
SCIENCE

**DBT-IISc Partnership Program Phase-II at IISc
Division of Biological Sciences
Indian Institute of Science
Bangalore – 560012**

January 2020

Apal
03/01/2020

Project Investigator
DBT-IISc Partnership Program Phase-II at IISc

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SECTION 1 – BID SCHEDULE

| | | |
|---|---|---|
| 1 | Tender No | DBT-IISC/ DBS/ CONFOCAL-FLIM-FCCS/2019-20 |
| 2 | Tender Date | January 2020 |
| 3 | Item Description | Supply and Installation of Live Cell Confocal system with FLIM and FCCS module |
| 4 | Tender Type | Two Bid System a) Technical Bid (Part-A) b) Commercial Bid (Part-B) |
| 5 | Place of Submission and tender opening | Principal Investigator, DBT-IISc Partnership Program Office, Biological Sciences, Indian Institute of Science, Bangalore – 560012, India |
| 6 | Last Date & Time for submission of tender | 27 th January 2020, 15:00 hrs |
| 7 | Date of opening of technical bids | 30 th January 2020, 16:00 hrs |
| 8 | For further clarifications | Principal Investigator, DBT-IISc Partnership Program Office, Biological Sciences, Indian Institute of Science Bangalore- 560012, India Email: deepaksaini@iisc.ac.in with copy to vijaylakshmi@iisc.ac.in 080-2293 2574 and 2293 3371 |

SECTION 2 – ELIGIBILITY CRITERIA

Prequalification criteria:

- 1. The Bidder's firm should have existence for a minimum of 3 years. (Enclose Company Registration Certificate)**
- 2. The Bidder should have qualified technical service personnel for the instrument(s) based in India.**
- 3. If the Bidder is a local distributor/dealer/Agent, it is mandatory to attach authorization certificate along with the bid from the original equipment manufacturer.**
- 4. The bidder should sign and submit the declaration for Acceptance of Terms and Conditions as per -Annexure 4**
- 5. The Bidder must not be blacklisted/banned/suspended or have a record of any service-related dispute with any organization in India or elsewhere. A declaration to this effect has to be given as per Annexure 3.**

SECTION 3 – TERMS AND CONDITIONS

A) Submission of Tender:

1. All documentations in the tender should be in English.
2. Tender should be submitted in two envelopes (two bid system).
 - a. **Technical Bid (Part-A) –**
Technical bid consisting of all technical details, check list for conformance to specifications, format in which the price bid is quoted without the actual prices (suppliers who include any indication of prices in the technical bid will be automatically disqualified).
 - b. **Commercial Bid (Part-B) –**
Indicating item wise price for the items mentioned in the technical bid, as per the format of quotation provided in tender, and other commercial terms and conditions
3. The technical bid and price bid should each be placed in a sealed cover, superscripting on both the envelopes the tender no. and the due date and Both these sealed covers are to be placed in a bigger cover which should also be sealed and duly superscripted with the Tender No & Due Date.
4. The SEALED COVER superscripting tender number / due date & should reach The Chairman, Centre for Product Design and Manufacturing, Indian Institute of Science, Bangalore – 560012, India on or before due date mentioned in the tender notice. In case due date happens to be holiday the tender will be accepted and opened on the next working day.

If the quotation cover is not sealed, it will be rejected.

5. All communications are to be addressed to- The Principal Investigator, DBT-IISc Partnership Program Office, Biological Sciences, Indian Institute of Science, Bangalore– 560012, India.
6. GST/other taxes, levies etc., are to be indicated separately. The BIDDER should mention GST Registration and PAN in the tender document (Indian Bidders only).
7. If price is not quoted in Commercial Bid as provided in tender document the bid is liable to be rejected.
8. The Institute reserves the right to accept or reject any bid and to annul the bidding process and reject all bids at any time prior to the award of contract, without there by incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders.
9. Incomplete bids will be summarily rejected.

B) Cancellation of Tender:

Notwithstanding anything specified in this tender document, IISc Bangalore, in its sole discretion, unconditionally and without having to assign any reason, reserves the rights:

- a. To accept OR reject lowest tender or any other tender or all the tenders.**
- b. To accept any tender in full or in part.**
- c. To reject the tender, offer not confirming to the tender terms.**

C) Validity of the Offer:

The offer shall be valid 120 Days from the date of opening of the commercial bid.

D) Evaluation of Offer:

- 1. The technical bid (Part A) will be opened first and evaluated.**
- 2. Bidders meeting the required criteria as stated in Section 2 of this document shall only be considered for Commercial Bid (Part B) opening. Further, agencies not furnishing the documentary evidence as required will not be considered.**
- 3. Pre- qualification of the bidders shall not imply final acceptance of the Commercial Bid. The agency may be rejected at any point during technical evaluation or during commercial evaluation. The decision in regard to acceptance and / or rejection of any offer in part or full shall be the sole discretion of IISc Bangalore, and decision in this regard shall be binding on the bidders.**
- 4. The award of contract will be subject to acceptance of the terms and conditions stated in this tender.**
- 5. Any offer which deviates from the vital conditions (as illustrated below) of the tender is liable to be rejected:**
 - a. Non-submission of complete offers.**
 - b. Receipt of bids after due date and time and or by email / fax (unless specified otherwise).**
 - c. Receipt of bids in open conditions.**
- 6. In case any BIDDER is silent on any clauses mentioned in these tender documents, IISc Bangalore shall construe that the BIDDER had accepted the clauses as of the tender and no further claim will be entertained.**
- 7. No revision in the terms and conditions quoted in the offer will be entertained after the last date and time fixed for receipt of tenders.**
- 8. Lowest bid will be calculated based on the total price of all items tendered for Basic equipment along with accessories for installation, operation, pre-processing and post processing, optional items, recommended spares, warranty, annual maintenance contract**

E) Pre-requisites:

The bidder will provide the prerequisite installation requirement of the equipment along with the technical bid.

F) Mode of Shipment:

In case of foreign bidders, the consignment must be airlifted, insured and transported to the Bangalore International Airport (CIP/CIF). Necessary custom clearance will be done by IISc, Bangalore, from Bangalore International Airport.

G) Customs clearance:

The IISc, Bangalore will furnish the necessary papers for the import of items into India, necessary custom duty exemption certificate and other supporting documents to facilitate the import of the items will be provided.

H) Warranty:

The complete system is to be under warranty period of minimum 5 years (year wise breakup value should be shown in the commercial bid) including free supply of consumables, spare parts and data analysis software from the date of functional installation. If the instrument is found to be defective, it has to be replaced or rectified at the cost of the bidder within 30 days from the date of receipt of written communications from IISc, Bangalore. If there is any delay in replacement or rectification, the warranty period should be correspondingly extended.

I) Annual Maintenance Contract:

An annual maintenance contract for a period of 2 years post warranty should be provided on completion of warranty period.

J) Purchase Order:

1. The order will be placed on the bidder whose bid is accepted by IISc based on the terms & conditions mentioned in the tender document.
2. The quantity of the items in tender is only indicative. IISc, Bangalore reserves the right to increase /decrease the quantity of the items depending on the requirement.
3. If the quality of the product and service provided is not found satisfactory, IISc, Bangalore reserves the right to cancel or amend the contract.

K) Delivery and Installation:

The bidder shall provide the lead time to delivery, installation and made functional at IISc, Bangalore from the date of receipt of purchase order. The system should be delivered, installed and made functional within 120 days from the date of receipt of purchase order. The supply of the items will be considered as effected only on satisfactory installation and inspection of the system and inspection of all the items and features/capabilities tested by the IISc, Bangalore. After successful installation and inspection, the date of taking over of entire system by the IISc, Bangalore shall be taken as the start of the warranty period. No partial shipment is allowed.

M) Payment Terms:

The payment will be through a Letter of Credit and milestone of the payment will be determined after the mutual discussions with the successful bidder.

N) Statutory Variation:

Any statutory increase in the taxes and duties subsequent to bidder's offer, if it takes place within the original contractual delivery date, will be borne by IISc, Bangalore subject to the claim being supported by documentary evidence. However, if any decrease takes place the advantage will have to be passed on to IISc, Bangalore.

O) Disputes and Jurisdiction:

Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Bangalore, India.

P) General:

1. All amendments, time extension, clarifications etc., within the period of submission of the tender will be communicated electronically. No extension in the bid due date/time shall be considered on account of delay in receipt of any document(s) by mail.
2. The bidder may furnish any additional information, which is necessary to establish capabilities to successfully complete the envisaged work. It is however, advised not to furnish superfluous information.
3. The bidder may visit the installation site before submission of tender, with prior intimation.
4. All imported equipment should be quoted in the currency of the country of origin, and all locally sourced items should be quoted in Indian Rupees.
5. Any information furnished by the bidder found to be incorrect, either immediately or at a later date, would render the bidder liable to be debarred from tendering/taking up of work in IISc, Bangalore.

Section – 4 – Technical Specifications

A) Technical Specifications of Motorized Inverted Fluorescence Research Microscope:

| S.No. | Specification | Essential/Desirable |
|-------|---|--|
| 1 | Fully Motorized Inverted Fluorescence Microscope for BF/DIC/Fluorescence preferably with touch pad for controlling motorized components of the microscope | Essential |
| 2 | Tiltable binocular / trinocular eyepiece | Essential |
| 3 | Programmable fast motorized X-Y scanning stage including sample holders for slides, 35/60 mm Petri dish, labtek chambers and multi well dishes with multipoint, tile and mosaic imaging software (capable of fast 6D imaging). | Essential |
| 4 | Fast stage insert for z stack imaging with travel range of 100 microns or better. | Essential |
| 5 | IR LED / Laser Hardware Based Focus Drift compensation for long term live cell imaging application is mandatory. | Essential |
| 6 | LED based illumination for Fluorescence catering to the following fluorophores to be included. | Essential |
| 7 | Band pass fluorescent filters for DAPI, CFP, GFP, TRITC, mCh and Cy5. | Essential |
| 8 | Motorized 6 position DIC nosepiece, Motorized Condenser NA 0.55 or better with modules for DIC, minimum 6 position fluorescence turret for accommodating fluorescent filters for sample visualization and camera based imaging. | Essential |
| 9 | High precision Z-focus drive with step size of 25 nm or better. | Essential |
| 10 | Plan super apochromat objectives - 40x/1.30 oil, 60/63x/1.40 oil immersion, and confocal compatible lenses for 10X/0.40, 20X/0.80. Separate objective, 40x/63x 1.20 water or better for FLIM and FCCS work. | Essential (Equivalent lenses with justification will be considered) |
| 11 | Automated DIC accessories for all objectives. | Essential |
| 12 | Setup for long term live cell imaging including Incubation system with Temperature, CO ₂ , humidity control. The parameters for incubation system should be controlled by a software preferably with ability to record the Temperature, CO ₂ level and RH at periodic intervals of ~10 minutes or lesser. | Essential |
| 13 | Anti Vibration Optical Table - Details below | Essential |
| | | |

A.1) Confocal imaging unit with high sensitivity detectors.

| S.No. | Specification | Essential/Desirable |
|-------|--|---|
| 1 | Detectors should be capable of simultaneous detection of minimum 4 fluorophores or more based on high sensitive or equivalent detectors – 2 channels spectral PMTs and 2 spectral GaAsP detectors with QE 45% or more for 3 channels. All detectors should have individual gain control. Spectral scanning with freely selectable emission band width. Online Super-resolution capability @ 120 nm in 2-channels | Essential Desirable and must be included as optional item (Separate cost should be listed) |
| 2 | The scanner should have ROI scan capability for fast scan. | Essential |
| 3 | Scan speed should be atleast 6 fps or better @ 512x512 without line skipping or pixel interpolation | Essential |
| 4 | Transmitted PMT for laser based DIC imaging. | Essential |

A.1.1) Laser modules with AOTF control. Only solid state lasers.

| S.No. | Specification | Essential/Desirable |
|-------|---|---------------------|
| 1 | 405 nm, 488 nm, 514nm, 565nm, 595 nm and 633 nm or equivalent. For simultaneous imaging in any laser combination. All visible lasers should be connected to the scan head and should be controlled through AOTF for fast laser switching and attenuation in pixel precise synchronization with the laser scanner. ROI scan for FRAP, PA/conversion experiments. | Essential |

A.1.1.1) FLIM and FCS/FCCS module

| S.No. | Specification | Essential/Desirable |
|-------|--|---------------------|
| 1 | FLIM module: Two Channel FLIM system with 2048 x 2048 pixels and 256 time channels detection or equivalent. | Essential |
| 2 | Time resolution: IRF ~ 100 ps or better Histogram time resolution : < 100 ps Pulsed light sources: 473 nm, 515 nm, 561nm, 640 nm (or equivalent). Rep Rate: 20 MHz or greater (External Trig. Control using TTL Preferred) 2 channel HyD or GaSP or APD detectors should be capable of detection 400-800nm (suitable filters to be included), GFP, YFP, RFP, mCherry, CY3/CY5, Alexa 568 etc. Phasor analysis for FLIM FRET | Essential |

| | | |
|---|---|-----------|
| 3 | Analysis routines for single component and multi component fits across channels | Essential |
| 4 | FCS/FCCS module: Hardware or Software based autocorrelator capable of acquiring data from two optical detectors (APD or InGaSP or Hyd) simultaneously | Essential |
| 5 | The correlator should have (2 x 16 channels preferred)with delay(lag) time resolution of < 25 ns or hardware capable of delivering autocorrelation curve with time resolution of 25 ns or better | Essential |
| 6 | Compatible objective, Apochromat 40x/63x/1.2 with correction collar (or equivalent). Selected for FCS. Integrated software control for FCS/ FCCS analysis. | Essential |
| 7 | APD or InGaSP or Hyb based single photon counting module capable of < 100 Hz dark counts or better, ~ 20 ns response time or better - suitable emission filters FCCS measurements of CFP/YFP, GFP/RFP, Cy3/Cy5 should be offered. | Essential |

A.1.3) System control and Imaging Software:

| S.No. | Specification | Essential/Desirable |
|-------|---|---------------------|
| 1 | Software should be capable of controlling every component of the system including microscope, incubation system, confocal setup. Should be compatible for 3D, 4D, 5D and 6D imaging (X,Y,Z,t, multi color, multi point). Image stitching in coordination with XYZ stage. FLIM image reconstruction and analysis ,Fitting of single and multiple lifetime analysis software. | Essential |
| 2 | FRET imaging as well as Quantitative data analysis capability. | Essential |
| 3 | Advanced 3D image reconstruction with rendering from a Z-stack image series including deconvolution capability in widefield, confocal and Super resolution deconvolution modalities (for all the three PSFs). | Essential |
| 4 | Co-localization and histogram analysis with individual parameters. | Essential |
| 5 | ROI selection for FRAP, Photo activation/conversion experiments | Essential |

A.1.4) Computer and Monitor:

| S.No. | Specification | Essential/Desirable |
|-------|--|---------------------|
| 1 | State of the art 64 bit control computer with minimum Intel Xeon 6 Core Processor, DDR RAM 192 GB or more; primary | Essential |

| | |
|--|---|
| <p>HDD – 512 GB SSD or better; secondary HDD: 4 TB SATA upgradable to 8 TB or better, DVD, SuperMulti SATA +R/RW, Graphics : dedicated dual display with minimum 16 GB internal Graphics RAM, Gigabit Ethernet, Win 7 Ultimate 64 bit or better, USB 2.0/ 3.0, Fire wire. 2 Large 30" LED monitor. OR equivalent</p> <p>Suitable secondary analysis computer and complete analysis license package to be included.</p> | <p>Minimum specifications / a compatible system capable of handling system requirements would be considered</p> |
|--|---|

B) Accessories:

The bidder should supply the below items along with the machine:

| S.No. | Specification |
|-------|---|
| 1. | <p>Suitable vibration isolation table with silent automated compressor pump (should have a free space of ~ 1 feet or more surrounding the equipment post installation and functioning) comprising of the following:</p> <p>a) Optical Table Top: Optical bread board with stainless steel skin (~ 5 mm or more) with M6 individually sealed threaded holes with > 4 inch thick honeycomb based vibrational damping.</p> <p>b) Auto Leveling Pneumatic Vibration Isolators with compressor and leveling valves. The isolators together with table top should present a workspace that is 3 feet from the floor.</p> |
| 2. | <p>True Online UPS system with isolation transformer for the entire system with minimum 1 hour backup</p> |
| 3. | <p>100% CO2 Cylinders (2 nos) with regulators and automatic cylinder switching module</p> |
| 4. | <p>In case the bidder is quoting tuneable white light laser then the laser should also be covered for 5 years warranty and in case the of any failure, a standby unit should be provided.</p> |
| 5. | <p>In case of breakdown or malfunction, the matter should be addressed within 2 weeks and in case on non-compliance warranty extension to the tune of 5 times the duration of breakdown will be extended.</p> |

C) Training and demonstration:

Training on usage of the machine (hardware and software) must be demonstrated by the successful bidder at bidder's cost to the end users at IISc, Bangalore.

Section 5: Technical Bid

The technical bid should furnish all requirements of the tender along with all annexure in this section and submitted to

**The Principal Investigator,
DBT-IISc Partnership Program
Biological Sciences
Indian Institute of Science
Bangalore – 560012, India**

Annexure-1:

Details of the Bidder

The bidder must provide the following mandatory information & attach supporting documents wherever mentioned:

Details of the Bidder

| SI No | Name of the Bidder | |
|-------|---|--|
| 1 | Nature of Bidder (Attach attested copy of Certificate of Incorporation/ Partnership Deed) | |
| 2 | Registration No/ Trade License, (attach attested copy) | |
| 3 | Registered Office Address | |
| 4 | Address for communication | |
| 5 | Contact person- Name and Designation | |
| 6 | Telephone No | |
| 7 | Email ID | |
| | Website | |
| 8 | PAN No. (attach copy) | |
| 9 | GST No. (attach copy) | |

Signature of the Bidder

Name

Designation, Seal

Date:

Annexure-2:

Declaration regarding experience

To,

**The Principal Investigator,
DBT-IISc Partnership Program
Biological Sciences,
Indian Institute of Science,
Bangalore – 560012, India**

Ref: Tender No: XXXXXXXXXX

Dated: XXXXX

Supply and installation of Live Cell Confocal system with FLIM and FCCS module

Sir,

I've carefully gone through the Terms & Conditions contained in the above referred tender. I hereby declare that my company / firm has ---- years of experience in supplying and installing Live Cell Confocal system containing high sensitivity detector along with FLIM module.

(Signature of the Bidder)

Printed Name

Designation, Seal

Date:

Annexure-3:

Declaration regarding track record

To,

**The Principal Investigator,
DBT-IISc Partnership Program
Biological Sciences,
Indian Institute of Science,
Bangalore – 560012, India**

Ref: Tender No: XXXXXXX

Dated: XXXXX

**Supply and installation of Live Cell Confocal system with FLIM and FCCS module
Sir,**

I've carefully gone through the Terms & Conditions contained in the above referred tender. I hereby declare that my company/ firm is not currently debarred / blacklisted by any Government / Semi Government organizations / institutions in India or abroad. I further certify that I'm competent officer in my company / firm to make this declaration.

Or

I declare the following

| Sl.No. | Country in which the company is Debarred /blacklisted / case is Pending | Blacklisted / debarred by Government / Semi Government/Organizations /Institutions | Reason | Since when and for how long |
|---------------|--|---|---------------|------------------------------------|
|---------------|--|---|---------------|------------------------------------|

(NOTE: In case the company / firm was blacklisted previously, please provide the details regarding period for which the company / firm was blacklisted and the reason/s for the same).

Yours faithfully

(Signature of the Bidder)

Name

Designation, Seal

Date:

Annexure – 4:

Declaration for acceptance of terms and conditions

To,

**The Principal Investigator,
DBT-IISc Partnership Program,
Biological Sciences,
Indian Institute of Science,
Bangalore – 560012, India**

**Ref: Tender No: XXXXXX
Dated: XXXX**

**Supply and installation of Live Cell Confocal system with FLIM and FCCS module
Sir,**

I've carefully gone through the Terms & Conditions as mentioned in the above-referred tender document. I declare that all the provisions of this tender document are acceptable to my company. I further certify that I'm an authorized signatory of my company and am, therefore, competent to make this declaration.

Yours faithfully,

(Signature of the Bidder)

Name

Designation, Seal

Date:

Annexure – 5:

Details of items quoted:

| | |
|--|--|
| Company Name | |
| Product Name | |
| Part / Catalogue number | |
| Product description / main features | |
| Detailed technical specifications | |
| Remarks | |

Instructions to bidders:

- 1. Bidder should provide technical specifications of the quoted product/s in detail.**
- 2. Bidder should attach product brochures along with technical bid.**
- 3. Bidders should clearly indicate compliance or non-compliance of the technical specifications provided in the tender document.**

Section 6: COMMERCIAL BID

The commercial bid should be furnished with all requirements of the tender with supporting documents as mentioned under:

| SI No | Description | Catalogue Number | Quantity | Unit Price | Sub Total |
|-------|---|------------------|----------|------------|-----------|
| 1 | Instrument price | | | | |
| 2 | Accessories for operation and installation | | | | |
| 3 | All Consumables, spares and software to be supplied locally | | | | |
| 4 | Warranty (5 years) | | | | |
| 5 | Cost of Insurance and Airfreight | | | | |
| 6 | CIP/CIF IISc, Bengaluru | | | | |

| SI No | Description | Quantity | Unit Price | GST | Total |
|-------|-------------|----------|------------|-----|-------|
| | | | | | |

Addressed to:

**The Principal Investigator,
DBT-IISc Partnership Program
Biological Sciences,
Indian Institute of Science,
Bangalore – 560012, India**

SECTION 7 – CHECK LIST

(This should be enclosed with technical bid- Part A)

The following items must be checked before the Bid is submitted:

1. Envelope “A”: Technical Bid

a) Section 5- Technical Bid (each page signed by the authorized signatory and sealed) with the below annexures:

Annexure 1: Bidders details

Annexure 2: Declaration regarding experience

Annexure 3: Declaration regarding clean track record

Annexure 4: Declaration for acceptance of terms and conditions

Annexure 5: Details of items quoted

b) Copy of this tender document duly signed by the authorized signatory on every page and sealed.

2. Envelop “B”: Commercial Bid

Section 6: Commercial Bid

Your quotation must be submitted in two envelopes: Technical Bid (Envelope A) and Commercial Bid (Envelope B) super scribing on both the envelopes with Tender No. and due date and both of these in sealed covers and put in a bigger cover which should also be sealed and duly super scribed with Tender No. & Due Date.